THE LANCET.

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CLINICAL LECTURE
ON THE
OPERATION OF LITHOTOMY,
DELIVERED AT
KING'S COLLEGE HOSPITAL,

By W. FERGUSSON, Esq., F.R.S.E.,
Surgeon to the Hospital, and Professor of Surgery in King's College.

Case of calculus in the bladder; operation for its removal. Circumstances influencing the size of the calculus. Mode of admeasurement by the sound. Reasons for preferring lithotomy to lithotrity in this case. Mode of performing the operation of lithotomy. Variety of opinions respecting the extent of the incisions. After-treatment.

Mr. Fergusson stated, that according to the promise which he had made to the pupils, when he lectured on this subject at King's College, and also for the purpose of illustrating his practice in the hospital, he would now avail himself of the present opportunity of making some observations, in further corroboration of those principles which he was in the habit of teaching in his lectures on surgery. A patient had recently come into the hospital whose case he would now read.

James Gould, ætat. 17, a ploughboy, and a native of Hertfordshire, was admitted 31st of March, 1842. States that he was quite well until eight years ago, when he first noticed that his urine stopped suddenly in its flow: soon after he felt great pain at the end of the yard, and his urine was often tinged with blood. Two years after these symptoms commenced he passed a small stone, and experienced relief from suffering. From this date he remained free of pain, until about two years and a half ago, when all his former symptoms returned with increased violence, causing him to pinch the end of the penis to alleviate his sufferings. At first the urine used suddenly to cease in its flow, but latterly the stream has passed continuedly, and with less pain and irritation, excepting after exercise, when his distress is extreme.

At the visit on the day of admission, Mr. Fergusson passed a sound, and without difficulty detected a stone, which he supposed to be of considerable size. The house-surgeon, Mr. Godfrey, examined the urine, and found it highly acid; but three days afterwards, a dose of carbonate of magnesia having been administered in the interval, on testing it again no change was evinced on either litmus or turmeric paper.

On the 3rd of April the patient was brought into the operating theatre, and the stone was extracted by the lateral operation of lithotomy. The stone slipped once from between the blades of the forceps, but though it was speedily seized again, its extraction occupied between three and four minutes, in consequence of its size, which, on measurement afterwards, proved to be four inches and a half in its shortest circumference, and six and a half in its longest. The weight was two ounces, and the composition seemed lithic acid. The bleeding was copious at the time of the operation, but it ceased as soon as the patient was removed from the table. Four hours afterwards he had rallied from the shock of the operation, which had in the interval caused great prostration; and next morning it was found that he had passed a good night, urine having passed freely both by the wound and the urethra; and although a little feverish, and complaining of slight pain over the pubes, the symptoms were neither alarming nor otherwise than might have been expected under the circumstances.

Mr. Fergusson stated that he would not detail the particulars of the subsequent history of the case, as the pupils had had the opportunity of observing them personally, and might find them in the case-book. It would be sufficient to state, that the pulse, which had been 100 the day after the operation, had gradually fallen to a natural standard within six days; that the urine had flowed partly by the urethra for the first two days, when it then came entirely by the wound; that on the seventh day it again came in part through the natural passage, and that on the tenth it had ceased to flow by the wound, which had then almost cicatrised. After the fourteenth day he had been allowed to move about the ward, and now on the

twenty-third, as they would remark, the boy was able to exercise freely, the wound being completely healed, and the patient appearing completely restored to health.

The case afforded an excellent opportunity of illustrating his general practice in instances of a similar kind, and he would therefore now proceed to take a brief review of its history, of the circumstances which had induced him to select lithotomy as a mode of cure, of the manner in which the operation was performed, and of the subsequent treatment.

They would observe, that from the boy's own statement, it was difficult to say whether the present stone had been in the bladder for eight years, or that it had formed within the last two years and a half, during the period that his sufferings had been greatest. It was sometimes interesting to ascertain the length of time that a stone may have been in the bladder, as it afforded some means of judging of its size; but although it generally happened that a stone was large in proportion to the time it had been in the bladder, it was by no means proper to take that circumstance as a criterion, for in some instances a stone acquired great magnitude in the course of a few years; whilst in others, after attaining a certain bulk, the increase might be scarcely, if at all, perceptible. The boy had stated that his sufferings were greatest about the commencement of the last two years and a half: at this time, too, the stream of urine used to cease suddenly, whilst latterly he had not experienced so much pain, and the urine had been voided in a continuous flow. From these circumstances he (Mr. F.) had imagined, that the stone had attained a considerable size. At first, being small, it had moved freely about in the bladder, and besides causing pain, had frequently obstructed the passage of the water, by falling against the orifice of the urethra; latterly, however, in consequence probably of its increased weight and size, it had remained more stationary, and, excepting on severe exercise, had not caused much distress, and perhaps had never moved much from its position in the lower and back part of the bladder.

All these circumstances had induced him to estimate the magnitude of the stone as being considerable, but they afforded no positive evidence on the subject; he had, therefore, in using the sound, endeavoured to acquire this knowledge by passing the point of the instrument around it in all directions, whilst the bladder was distended with urine, and had thereby ascertained that his suspicions were correct. He had satisfied himself with this general conclusion, that the stone was large, but had not endeavoured to calculate its size by lines; a mode of measurement which was a good deal followed in the present day, more particularly when lithotrity instruments were used. He doubted much, however, if very accurate measurements could be made by these means, so long as the stone was in the bladder; when removed from this viscus, however, there could be no doubt of their accuracy: but, it seemed to him, that the stone in this case was a sufficient example to prove the fallacy of trusting to measurements made in the dark. If it had been seized with a lithotrity instrument in its long diameter, the measurement would have been more than two inches, and if in one direction in its shorter axis it would have appeared one inch and a half, but in another, owing to its flat shape, it might have seemed not much more than half an inch. He doubted if the generality of those who treat stone in the bladder by surgical means, could, with any certainty, make sure of changing the position of a stone in the bladder, so that at each new grasp it should be caught in a different axis; and for his own part, as there were few stones of the same diameter throughout (indeed he had never heard of a circular stone), he was not disposed to put much reliance on this mode of procedure, if lithotomy was the operation contemplated. On the contrary, he would deem the practice highly injurious in the generality of cases, as the repeated application of instruments to the mucous surface of the bladder, was the reverse of good practice in lithotomy, although in lithotrity this could not be avoided. Even here, however, it was certain that the less the instruments were moved in the bladder, compatible with their efficient application, the greater was the safety of the patient.

From these remarks, then, they would perceive that he was an advocate for the gentlest possible application of the sound, and they had seen him move it about in this patient's bladder, with that extent of force and motion only, as enabled him to ascertain the fact that the stone was large; and they had also seen, that to facilitate the examination he had passed a finger into the rectum, to raise the stone from the lower part of the bladder, where it seemed chiefly to lodge.

With regard to the circumstances which induced him to select lithotomy as the means of treatment in this particular case, some of those now referred to had served to guide him, but there were others equally cogent, which he would now proceed to mention. The bulk of the stone would, in any case, have offered a serious objection to lithotrity, for no one could reasonably have expected to comminute one so large unless by repeated operations; and here this objection presented in greater force, in consequence of the smallness of the urethra, for though the lad was seventeen years of age, the genitals were less developed than usual at this period of life. The fragments would, therefore, have required to be small in proportion, and hence the process must have been more tedi-

ous than in a case where, from the urethra being of full calibre, the fragments could have passed of a larger size. Although the patient seemed to suffer a little from the simple process of sounding which he had pursued, the apparent irritability of the urethra and bladder had less influence in deciding his opinion than the large size of the stone, and particularly the want of development in the urinary organs. Then, it was of consequence to observe, that the age of this patient placed him in that class in which lithotomy had been found to be followed with the greatest success, the average deaths in persons under twenty being perhaps not greater than one in fifteen or twenty. The magnitude of the stone rendered the hazard of lithotomy so much the greater, yet the same circumstances made lithotrity equally objectionable; and from all he could perceive of the latter operation, as applicable to patients under puberty, he could not hesitate for an instant, after weighing in his mind all the features of this case, to give the former operation the preference. He was aware that lithotrity could be done, and had been accomplished, in children, and boys under the age of fifteen or seventeen; but he conceived that some persons were inclined to draw erroneous conclusions from such premises, and he himself only looked upon the histories of such cases as proving that lithotrity *could* be done in children, not, however, as proving that it *should* be performed. The alternatives were vastly different, and he feared that the difference between "could be" and "should be" were not, in the present stage of the history of lithotrity, sufficiently appreciated; and it appeared to him that the mere fact of lithotrity having been successfully performed on a few children, was not sufficient to induce surgeons at once to set aside an operation which had been equally successful, as any capital operation performed on patients in childhood or in adolescence; whilst, at the same time, every principle of mechanics indicated the disadvantages of the crushing process as clearly, from the small-sized instruments that must have been used, as well as the necessity for the minute subdivision of the fragments already adverted to.

Had the patient been much above the age of puberty, he (Mr. F.) might have reasoned very differently, but as it was, taking everything into consideration, he had no hesitation about the course most applicable in the case, and had accordingly selected lithotomy.

He would not advert to all the particulars of the operation, but would limit his observations to certain features, which he thought most worthy of notice, in the proceedings they had seen him follow.

And, first, they must have noticed that he had not subjected this patient to any lengthened preliminary treatment, simply because it did not appear to him that such a course was necessary in this case. He trusted that some of the pupils present would remember his practice in the preceding case of a similar nature which he had had in the house; in that instance the patient seemed in such a precarious condition that he had resisted all the solicitations of the sufferer that the operation should be performed, until from the medicines used, and the time that was permitted to elapse, health was so far restored as to render the operation justifiable and even necessary; but here the boy exhibited all the symptoms of a sound constitution, and, with the exception of the presence of a stone in the bladder, a most healthy urinary apparatus. He had, therefore, been contented with keeping the boy quiet for a few days, and exhibiting a smart purge with magnesia.

Two hours before the operation he had directed, as was usually his practice, that a clyster of warm water should be given, so as to clear the lower part of the bowels; and after this he had desired the patient to retain his urine.

When the patient was placed on the operating table, the first thing he (Mr. F.) had done was to introduce a staff into the bladder; it was small, they would remark, but as large as the urethra would admit with freedom. Having touched the stone he had the patient bound in the usual way. He made it an invariable rule to introduce the staff or sound before tying up the patient, for it sometimes happened that the staff was not so easily introduced as might be anticipated, and it was then desirable to change the position of the instrument, or of the patient, both of which were difficult whilst he was so bound up; or possibly there might be trouble in touching the stone, for it was highly satisfactory to do so, before cutting into the bladder; indeed, unless the stone could be touched by one or other of these instruments, immediately before it is proposed to use the knife, he deemed the surgeon not justified in making the incisions. In such an example as this such a rule was of little consequence, for the stone being large and the organs healthy, no doubt could be entertained about the staff coming into contact with the stone immediately on its introduction; but for want of attention to this rule (for it should be a rule in lithotomy to touch a stone before cutting), he had seen much embarrassment on the part of the surgeon, and much distress on that of the patient.

The stone having been felt at once, the staff was immediately transferred to the care of his colleague, Mr. Partridge, when the patient was tied up and his breech brought close to the margin of the operating table. They had then seen him seat himself in front of the perineum, and look particularly at the position of the staff, to ascertain that its point was still in the bladder, and that it was held nearly at right angles to the pubes, and in a

manner hooked up under the arch. He had then introduced the forefinger of the left hand into the rectum, partly with the object of ascertaining that the rectum was not distended, partly also to cause it to coutract, for the finger seemed to have this effect, but chiefly with the object of touching the prostate gland, and thus ascertaining its depth from the surface. He had next made the external incision, which, they must have remarked, was begun within a line or so of the raphé, and more than an inch and a half in front of the anus, and terminated about an inch behind this aperture, the wound being between two inches and a half and three inches long. For his own part, he was an advocate for a free division of the integuments: in so far as he knew, no possible injury could follow such a procedure, whilst he believed every experienced lithotomist must have seen much inconvenience, if not evil, when the external opening was too limited. He himself was in the habit of beginning his first incision much higher up than was usually directed by surgical authorities, and the reason he gave for this was, that, as the assistant usually held up the scrotum, and also from the peculiar position of the patient, the skin was generally on the stretch; but as soon as the scrotum was let go, the upper extremity of the wound fell down, and, when the patient was untied, the wound contracted still further. The latter circumstance might in some respects be an advantage; but it was of consequence to remember, that a wound in the integuments, if made when these were stretched, of three inches in length, might actually, in their more natural condition, appear not so long by a third. There was an advantage in a free external incision, which had not been referred to by all writers on this operation, though he perceived it had been pointed out by Mr. Crosse, of Norwich, and it was, that the perineum was thereby diminished in depth in a remarkable manner. When a short incision is made in the skin with the point of the knife, half an inch in depth, the wound appears like a fissure nearly as deep; but if, on the contrary, the incision is of considerable length, and well placed, then the margins fly wide apart, and the subcutaneous fat (or the bottom of the wound), instead of appearing as deep as the plunge of the knife may have indicated when it was first introduced, will actually appear nearly on a level with the surrounding integuments. In the second incision a like result, though not to the same extent, will occur; but, for his own part, unless the perineum was very deep, he would not be so particular about the length of the second stroke of the knife. After the first cut he had, with the point of the knife, touched the fat and cellular texture opposite the space between the accelerator and erector muscles, and this had enabled him to thrust his left forefinger so deep here, that he could place its point against the groove of the staff. He had then put the point of the knife into the groove, and pushed it onwards to the bladder, his aim being to enter it about the middle of the membranous portion of the urethra, and to carry it as far as to notch the left lobe of the prostate. As soon as he supposed he had accomplished the latter part of the proceeding he had withdrawn the knife, and endeavoured to place the point of the forefinger of the left hand on the naked groove; but finding that he could not do this readily, he had again introduced the knife, and enlarged the wound in the deep parts, to enable him to accomplish this,—which being done, he then insinuated his finger gradually into the bladder, and having felt the stone and placed it under the point of his finger, he had desired the staff-holder to withdraw the instrument. Next, he had introduced the forceps along the back of the finger, gradually withdrawing the latter as he went deeper with the former, and just as their points passed into the bladder, a gush of urine occurring, he seized that opportunity of opening the bladder, and, by a kind of shake with the right hand, caught hold of the stone. He had not, however, succeeded in catching a good hold (perhaps it was in consequence of the great size of the stone), and the blades had slipped. On a second attempt he had been more successful, and, with the application of a steady and well-directed force, the texture in the track of the wound had gradually given way, so as to give exit to the stone.

From this description it would be observed that he had made very small internal incisions, and he felt bound to say, that from the second application of the knife, he had only used it further to that extent as to permit him to pass the finger into the bladder, and this not easily, but with a certain amount of force. These internal incisions had given rise to more difference of opinion, more discussion, and more uncertainty than any other part of the operation. Some entertained the view that unless free incisions were made there was neither safety to the patient nor credit to the surgeon; and others again had maintained (the doctrine was as old as Hippocrates), that it was death to cut the membranous part of the neck of the bladder. He conceived that the success of the high operation of lithotomy, in the hands of Souberbielle and others from the time of Franco to the present day, had sufficiently disproved the adage of the Father of Medicine, that "wounds in membranous parts are mortal;" yet in his own practice in the lateral operation of lithotomy, it was his invariable rule to avoid the membranous portion of the bladder as much as possible, or, in other terms, he never extended the wound through the whole of the prostate, unless he found it absolutely necessary. Before doing so he preferred notching the prostate gland on the opposite

side, to imitate, in some degree, the bilateral operation of Dupuytren; or, if this did not answer, he would notch the gland at any convenient part, or wherever it seemed most tight. Either of these proceedings, however, were but rarely required, and he had repeatedly removed calculi as large as the one which he had lately extracted, without using the knife in the neck of the bladder a second time. He felt satisfied, that in general the orifice might be sufficiently expanded, by a proper application of force, as to permit the escape of a very large stone; and to the question whether this expansion was the result of dilatation or laceration, he could scarcely give a decided answer. He had no objection to allow the advocates for free incisions that laceration, and not dilatation, was the result of the procedure; but he would not, at the same time, admit that the operation was a bit more dangerous, less rapidly or less efficiently performed, than when a large gap was made. He had himself extracted a stone nearly eight inches in circumference, through a wound which originally had not been larger than to admit the forefinger of his left hand, yet the whole track had closed on the fourth day; and from this case and many others, successful as well as the reverse, he was not of opinion that the fatal result was very frequently to be attributed to this kind of violence: but, though he was not prepared to say that the free wound through the prostate into the membrane of the bladder was the cause of death in all instances where it was practised, he gave a decided preference to that plan whereby a small margin of the prostate, even after considerable expansion, should still remain entire; for he thought that there was less chance of *great* laceration in this way, and, moreover, that there was less probability of the urine becoming infiltrated, or of it causing injurious inflammation in passing over the hard and somewhat smooth margin of the prostate than over the lacerated edge of the bladder. But all these matters were difficulties, which the best in the profession had endeavoured to explain, and each side of the dispute had most honourable and worthy partisans. His pupils would have no difficulty in perceiving which side he leant to: a free external wound varying in length from two inches to four, in proportion to the depth of the perineum, with a cautious use of the knife internally, he thought the most eligible practice; but whatever might be the size of the wound, the succeeding beauty of the operation (if he might use such a term) depended greatly on the use of the forceps, both in catching the stone and in extracting it.

There was one point regarding the wound in the neck of the bladder which he could not avoid mentioning, viz., the calculations, which had been made by Scarpa and others, of the extent of wound in the prostate necessary to allow the extraction of a stone of average diameter. The distinguished authority named was an advocate for a small incision and gradual dilatation, and speaks, like most other authors, of the length of his incisions by the number of lines, stating that "a stone of more than ordinary size may be extracted through a wound in the side of the prostate of five lines in depth, without the parts being violently contused or lacerated;" a doctrine in which he (Mr. F.) entirely coincided, as most emanating from this high source, which are propounded in his Memoir on the Cutting Gorget. But neither Scarpa nor any one else, in so far as he knew (with the exception, perhaps, of Heister, who had actually recommended expanding the neck of the bladder in this way), had referred particularly to the stretching of the orifice, by the expansion of the blades in the attempts to seize the stone. He believed that considerable injury was often done at this stage of the operation, and was of opinion that in some instances the neck of the bladder was more expanded at this particular period than during the extraction of the stone. Some might imagine that the hinge of the forceps was always opposite the neck of the bladder; but this was an error, and, though sometimes it was deeper, it was more frequently nearer the perineum. It was seldom requisite to pass it deeper, excepting in some rare instances where the stone is high in the bladder; and if it were pushed into the viscus whilst at the time the stone was near the orifice, the latter might be caught between the blades, so near to the hinge, as to cause great expansion of the points; and under these circumstances, if the stone were extracted, it might happen that a far greater orifice in the neck of the bladder might be made than the size of the stone demanded. The latter occurrence he believed did not happen so often as the other; in either instance the patient might or might not do well, the result having probably little to do with these proceedings; but these statements, he trusted, would be sufficient to show the futility of nice calculations about the extent of wound necessary for the safe or rapid extraction of a stone.

He wished his time would permit him to dwell longer on these interesting points, but felt obliged to hurry on to a conclusion.

When the stone was extracted he had introduced a searcher to ascertain if any more were present, and finding the bladder clear, the patient was untied and carried to bed. The bleeding had been more than usual at the time the patient was carried from the table, probably from the transversalis, or the superficialis perinei, but as the boy was somewhat robust, he thought the loss of blood might rather be a benefit than otherwise. When the thighs were placed in contact the bleeding ceased, and in reality less blood was lost than might have been anticipated.

Regarding the after-treatment, the present case afforded little opportunity for remark; there had been neither bleeding, severe inflammation, infiltration, nor other untoward event, and all that had been required on his part was merely to watch the closing of the wound by nature. He would not, therefore, detain them longer than merely to observe, that he had made no provision for the escape of urine, by the insertion of a tube into the bladder through the wound. In the greater number of his own cases he had followed this plan, having been induced to do so by the distinguished example of Mr. Liston's practice; latterly, however, he had disused the tube; and from his own experience he was inclined to say that its advantages had probably been somewhat overrated, although the great success of the above-named surgeon might be held as a strong argument in its favour. But it ought not to be overlooked that there were many other contemporary lithotomists, such as Mr. Crosse, Mr. Green, Mr. Key, Mr. Crighton, whose success was remarkable, although they did not use the tube; nor should it be forgotten that its insertion was condemned by Jaques, Ravius, Heister, and others, and that neither Cheselden nor Martineau, whose individual success in lithotomy was usually considered greater than that attending the practice of other British surgeons, had not adopted such a proceeding.

The pupils must be aware that it was impossible to give more than a sketch of such an extensive surgical subject as lithotomy in the brief period allotted to one lecture, nor, indeed, was it possible even to allude to every point of interest. He hoped soon, however, to have another opportunity for further illustration of such an absorbing subject.

THE

PHYSIOLOGY AND PATHOLOGY

OF

THE SALIVA.

By Samuel Wright, M.D. Edin., F.S.A., Physician to the Birmingham General Dispensary, &c. &c.

(Continued from p. 218.)

Three drachms of saliva were mixed with two scruples of starch, and three drops of nitric acid were subsequently added, and well incorporated. The mixture was allowed to stand for twenty-four hours, at a temperature of 90°. Four grains of gummy-looking matter were produced, but no sugar.

This form of experiment was repeated with sulphuric, hydrochloric, and acetic acids, respectively, and with very similar results.

Three drachms of saliva were rendered strongly alkaline by six drops of *liquor potassæ*, and then digested upon two scruples of starch for twenty-four hours, at a temperature of 90°. Six grains of gummy matter were formed, but no sugar.

Similar experiments were performed, with the substitution of pure soda and pure lime for the potash. The results were almost identical.

Thirty grains of raw, lean mutton were digested in four drachms of water for six hours, at a temperature of 90°; and a similar piece of mutton was digested in four drachms of slightly alkaline saliva, at a corresponding temperature, for the same length of time. The saliva became sour from the prevalence of lactic acid, but the water continued neutral. The mutton in the latter liquid was not sensibly altered in appearance; whilst that which had been exposed to the saliva was ragged and uneven upon its surface, softened and tender in its texture, and easily reducible to a pulp with water.

I repeated this form of experiment, using severally beef, pork, veal, rabbit, and chicken. In every instance the digestive influence of the saliva, as contrasted with that of water, was strikingly apparent.

Thirty grains of raw, lean beef were beaten to a pulp with two drachms of saliva, and then placed under oxygen gas over mercury, and kept at a temperature of 80° for six hours. Other thirty grains of beef were similarly treated with water, and exposed in the same medium, at the same temperature. At the end of three hours there was an obvious intestine movement in the salivary mixture, whilst the watery solution indicated no appearance of change. When four hours had elapsed, the former solution was two degrees higher in temperature than its atmosphere, whilst its latter solution continued stationary. Upon the surface of the saliva, and on the sides of its containing vessel, were to be seen a multitude of air-bubbles; but none were observed upon the surface of the water, or on the sides of its glass. At the expiration of six hours it was found that the saliva had absorbed two-thirds of its volume of the oxygen, and had liberated exactly its own volume of carbonic acid gas. The mixture was strongly acid, and much more uniform than when first made; indeed, it had the appearance of having undergone an active and efficient digestion. The water, on the contrary, had not absorbed any appreciable quantity of the oxygen which surrounded it, and it had evolved not more than one-twenty-fifth of its volume of carbonic acid gas. The mixture was neutral as at first, but decidedly less uniform than when originally prepared; the meat lay at the bottom of the vessel, and presented neither any sign of change nor any prospect of solution.

Eight ounces of lean, raw beef, and eight ounces of bread, were beaten to a pulp with

ten ounces of water, and the whole was then injected through the tube of a stomach-pump into the stomach of a healthy terrier dog, weighing fourteen pounds. The animal had fasted for twenty hours previously. Immediately after the injection, the gullet was tied to prevent vomiting. The saliva was tested at this time, and was observed to be *feebly alkaline. In half an hour its strength of alkalinity was at least doubled;* the *quantity* of secretion was also much augmented. *The alkaline reaction of the saliva gradually increased, till, at the end of three hours, it contained* 3.14 *per cent. of alkali.* At this time the animal was destroyed by the introduction of air into his jugular vein. The stomach smelt excessively sour, and its mucous membrane was deeply reddened; the shade was at least three or four times deeper than that which is observable in ordinary digestion. The food, especially the fibres of the meat, seemed to be little altered, and, except being incorporated with an abundance of mucus, presented almost the identical appearance of the original mixture.

Eight ounces of lean, raw beef, and eight ounces of bread, were beaten to a pulp with ten ounces of alkaline saliva, and the mass was subsequently injected into the stomach of a healthy bull-terrier dog, weighing thirteen pounds. He had taken no food for twenty hours previously. The gullet was tied as before. On testing the animal's saliva it was found to be moderately alkaline. *At the end of half an hour the secretion was scarcely altered either in character or quantity.* When two hours had elapsed, the mouth was very frothy, but the saliva was little changed. At the end of three hours the mouth was still frothy, and *the saliva contained only* .89 *per cent. of alkali.* The animal was now killed by the injection of air into his jugular vein. The contents of the stomach were not particularly acid, nor was the mucous membrane more vascular than in healthy digestion. The food was reduced to a perfectly homogeneous pulp, and not a trace of animal fibre could be found in it.

These experiments were respectively repeated upon two cats, and with very similar results.

Gluten is also partially soluble in saliva, and by being digested in this fluid becomes sparingly soluble both in water and cold alcohol. The action of saliva upon gluten is not productive of either gum or sugar.

INFERENCES.

1. Saliva has the power of modifying, and, to a certain extent, of digesting vegetable and animal substances.

2. It has a more powerful action upon vegetable than upon animal matters.

3. The healthy digestive action of saliva is always attended with the evolution of lactic acid. *

4. Filtration, or boiling, diminishes the digestive powers of saliva, but does not destroy them.

5. Exposure of the saliva to atmospheric air, for a moderate length of time, does not materially weaken its digestive powers; but they are enfeebled in the ratio of the putrescency of the secretion.

6. Oxygen gas assists the digestive action of saliva, but is not essential to it. Carbonic acid gas impairs this action in a mild degree, and hydrogen and nitrogen gases weaken it very considerably.

7. Acids, or alkalies, added to saliva, diminish or destroy its digestive properties.

8. The presence of saliva in the stomach is essential to healthy digestion.

9. The digestive action of saliva is not possessed in any efficient degree by animal mucus, acids, alkalies, or alkaline salts.

It should be observed, for the satisfaction of those who may wish to repeat these experiments, that the digestive action of saliva is influenced and moderated to a great extent by accidental circumstances; and sometimes, even without any obvious cause, very different results will be obtained. The experiments I have just recorded are only a few amongst a vast number which I performed two years ago; and they may be regarded as a mean of the extremes which were observed in the course of investigation.

The fact of saliva changing the ultimate composition of one kind of food, and simply digesting or dissolving another, is a substantial argument in favour of the service of this secretion in the process of ordinary digestion. That saliva is capable of exerting a powerful digestive action over both animal and vegetable substances cannot be denied, because the fact is reducible to demonstration; and, therefore, it might, *à priori*, be argued that, without the presence of saliva in due quantity, and of a healthy kind, the stomach would imperfectly perform its functions: as we have seen, this notion is also confirmed by direct experiment.

These observations, however, are at variance with those of Dr. Beaumont, who is of opinion that saliva is of no use whatever in digestion, which he believes to be mainly performed by the gastric juice. This in-

* The lactic acid is probably derived from the action of saliva upon the sugar into which it had previously converted the starch. "A piece of the rennet-stomach of a calf, in a state of decomposition, occasions the elements of sugar to assume a different arrangement. The sugar is converted into lactic acid without the addition or loss of any element." (1 atom of sugar of grapes — C^{12} H^{12} O^{12} yields two atoms of lactic acid = 2 — C^6 H^6 O^6.)—Liebig's Organic Chemistry, by Lyon Playfair, 1840, p. 348.

ference he derives from having seen food digest in the stomach of Alexis St. Martin, when introduced through an external opening, whereby mastication was avoided. But if Dr. Beaumont, whose experiments were for the most part very rudely performed, had tested the saliva of his patient before and after the introduction of food through the external orifice, I am persuaded he would have found that *the secretion underwent a considerable alteration to answer the peculiar demands of the stomach in that unnatural process of digestion.* (This is supposing the patient to have been healthy at the time.) He would have discovered, not only that *the quantity of fluid was much increased, but that its alkalinity was vastly augmented also.* Before inferring that the saliva performed no part in the function of digestion, because the food was not passed through the mouth, neither subjected to mastication, *he should have satisfied himself that no saliva entered the stomach subsequently.* This is the great source of Dr. Beaumont's error. He entirely overlooked *the extra effort which the salivary apparatus might and would make in the course of his experiment;* and apparently never considered that a plentiful intermixture of saliva with *pulpy food in the stomach, is nearly as serviceable to digestion as when such intermixture occurs in the mouth.** It is not to be expected that Dr. Beaumont should have tied the gullet of Alexis St. Martin, though only by such means could he ensure the entire absence of saliva from the stomach; but he might have suggested to him to avoid as much as possible swallowing his saliva, in which case I have no doubt very different results would have characterised his investigations.

The many other desiderata which notoriously mark the experiments of Dr. Beaumont, will, I hope, be supplied after the subject of them shall have been submitted to the more enlightened and accurate observations of British physiologists.

Another use of the saliva is to furnish an alkali for the neutralisation of any undue quantity of acid in the stomach.

I have before said that the alkalinity of saliva, the system being healthy, varies with the kind of food eaten, and with the necessity which exists in the stomach for the action of an alkali. "When hot spicy food is taken into the mouth, the secretion of saliva is immensely increased, obviously for the purpose of diluting the excess of stimulant before it shall be allowed to reach the stomach."—Combe, Physiology of Digestion, p. 49.

The same applies to the drinking of spirits, &c. At such times, as Dr. Combe observes, the saliva is vastly increased in quantity, but what is more interesting, its alkali is also prodigiously augmented, which appears to serve the purpose of mitigating the acrimony of the stimulants; a property which alkalies possess in an eminent degree. Nor is this dependent upon a local stimulation of the glands by actual contact, for such a stimulus in the stomach only is productive of a like effect.

I tested the saliva of a dog, and found it to be moderately alkaline. I then injected into his stomach through an elastic catheter, an ounce of common French brandy diluted with an equal quantity of water. In three minutes the alkalinity of the saliva was doubled, and at the end of six minutes its strength was four or five times greater than at first. At the expiration of half an hour it had returned to its original state of alkalinity.

I repeated this experiment several times upon other animals, and always with the same results. I then varied the experiment with pepper, mustard, horse-radish, and capsicum, and in each instance the saliva was rendered alkaline nearly in proportion to the stimulant action in the stomach.

In an individual, *otherwise healthy*, a sudden disturbance of the digestive function from abundant or improper food, is invariably attended with an increased alkalinity of the saliva; and though this increase may occur in an habitual dyspeptic, and is therefore not an unerring proof of healthiness, *yet is its absence a most conclusive sign of chronic derangement of the stomach or of the system generally.* I was led to make an extensive series of observations upon this subject, from noticing in my own case the effect of spitting after having partaken of a full meal. In such instances I never failed to have an abundance of acidity with much pain in my stomach, *and a correspondent alkalinity in my saliva.* By taking a dose of carbonate of soda, which was immediately succeeded by the rapid disengagement of carbonic acid gas, *my saliva would return to feeble alkalinity in a few minutes, and often in a few seconds.* These observations, at a sad cost of health and strength, I made upon myself nearly one hundred times.

I have again, without spitting, drank one or two ounces of vinegar moderately diluted with water after dinner, and invariably did my saliva become subsequently alkaline, and continue so until the uneasiness caused by the acidity had been removed.* After eating

* As when people live upon spoon-diet. In this case, nearly all the insalivation is performed in the stomach. Dr. Beaumont merely reduced his patient to the condition of a man who subsists upon food that wants no chewing.

* The indigestion consequent upon sleeping after dinner, or after a hearty supper, is chiefly owing to a diminished or a suspended secretion of saliva. On waking, the saliva is often found to be inordinately alkaline.

raw turnips, onions, and other indigestible matters, I noticed the same peculiarity in my saliva.

These experiments I was afterwards enabled to repeat upon several friends who kindly submitted themselves to the trial, and the results were almost identical with those which occurred in my own person.

Another important purpose which the saliva answers, is that of assisting the sense of taste.

"Effecta salivæ sunt humiditate solvere, calore ac tenuitate, penetrare, coquere, abstergere, mundare, quorum quædam etiam in humano corpore præstat, propter quæ et maxime animalibus tributa est. Principio enim cibis permista facit, ut melius in lingua percipiantur, unde arida existente lingua gustus minus bene celebratur." (Albert. Kyper. Anthropolog., lib. i., cap. 16, sec. 13.)

"Est quippe saliva vehiculum saporum et sine ea sapores vel plane non vel saltem obscure a lingua percipi possunt." (Lanzon. Exerc. de Saliv. Human., cap. 3, p. 41, seq., et cap. 4, p. 83, seq.)

"Ciborum saporem ob materiæ sapidæ evolutionem saliva auget." (Plenck, Hygrologia, p. 58.)

"La salive pour contribuer à nous faire sentir les saveurs telles qu'elles sont, doit etre elle meme insipide. Car si elle change, comme dans les maladies, et qu'elle se méle avec quelque humeur etrangere, telle qu'est la bile, on trouve tout amer." (Baptiste Verduc, Tracté de l'Usage de Parties, tom. ii., cap. 6, p. 133.)

"Taste, a necessary sense, *which perceives all savours by the tongue and palate, and that by means of a thin spittle or watery juice.* His *organ* is the *tongue*, with his tasting nerves; the *medium* a watery juice." (Burton's Anatomy of Melancholy, p. 101.)

Christian. Johan. Longius (Oper. Medic., tom. iii., Disput. 10, sec. 28, fol. 143,) says, if acrid salts in the dry state are put upon a dry tongue, no taste is perceived, but when saliva flows, in that moment they begin to pain or vesicate. Hermannus (Cynosur. Mat. Med., p. 2), Blancard. (Oper., tom. i., Inst., cap. 23, p. 265), Joh. de Muralt. (Clav. Medicin., Exercit. 2, p. 497, seq.), and Bohnius (Clav. Anat. Physiol., Progymn. 9, p. 134,) entertained similar opinions.

Joh. Frid. Ortlob. (Histor. Part et Œconom. Animal, dissert. 4, sec. 10, p. 29,) says, that alimentary matter when mixed with saliva experiences a change in its natural taste and odour. Zwinger (Fasicul. Disp. Med., Disp. 8, p. 379,) admits that saliva is a great agent of taste, but thinks that it acts chiefly by dissolving the salts of the food. Camerarius (Medicin. Conciliatric, cap. 9, p. 127), on the contrary, believes it to act by moistening and preserving the vigour of the nervous papillæ of the tongue.

In whatever way the saliva may produce these effects, whether vitally, as some think, or galvanically, as others maintain, we at least are certain of its use in assisting the perceptions of the tongue, inasmuch as its absence or its depravity is ever attended with a decline or a disorder of the sense of taste.

Saliva is further serviceable in moistening the mouth, and in favouring the expression of the voice. "Sitim moderatur cavum oris et faucium humectando." (Plenck, Hygrol., p. 58.) Gurisch quaintly says, "Si lingua sicca est 'vox hæsit in faucibus.'" Lanzonus (Exerc. de Saliv. Hum., cap. 3, p. 46,) mentions the case of a preacher, in whom the secretion of saliva was so trifling, that he was unable to speak without constantly moistening his mouth with water. Gurisch knew a female singer who laboured under the same troublesome affection.

When we consider the size and number of the salivary organs—the connection of their situation with their services—their increased activity during and subsequently to a meal—the rapidity with which their secretion is altered both in character and quantity as the necessities of the stomach may indicate—the influence which this secretion is capable of exerting upon animal and vegetable substances—and the injury which the system sustains from its disorder or its loss.* We are at least justified in the inference that saliva contributes not unimportantly to the sum of those functions which are the basis of animal and organic life.

And from the experiments which I have recorded, with what fidelity it becomes not me to pronounce, we may, perhaps, venture to classify the uses of saliva in the animal

* Most people are aware of the baneful effects of frequent or abundant spitting. "Ut non mirer, si tales homines ex abusu spuendi, stomacho sunt debiles, languidi inappetentia, et alvi siccitate laborent, imo etiam pallore vultus, et urinæ cruditate: quorum nonnulla vidi in Puella prope Suburram: in Presbytero juvene ad forum Piscium: in alio ad Templum Pacis prope forum agonale: et in erudito viro in vico Rotundæ, sive Pantheon Agrippæ ex voluntario ptyalismo in marasmum fere redacto." (Baglivi, Op. Om., p. 427.) Frequent attacks of dyspepsia, to which I was once happily a stranger, painfully remind me of the injury which I sustained in the course of my investigations. I once spat two hundred and fifty drachms of saliva in one week, and from the nature of my experiments I was often compelled to spit directly after dinner; in that seven days I lost eleven pounds in weight, and was much weakened and emaciated.

system, under the heads of active and passive, as in the following arrangements:—

Active.

1. To stimulate the stomach and excite it to activity by contact.
2. To aid the digestion of food by a specific action upon the food itself. *
3. To neutralise any undue acidity in the stomach, by supplying a proportionate alkali.

Passive.

1. To assist the sense of taste.
2. To favour the expression of the voice.
3. To clear the mucous membrane of the mouth, and to moderate thirst.

REMARKS
ON
THE PATHOLOGY AND CAUSES
OF
CANCER.

By William Budd, M.D., Bristol.

[Being the substance of a Paper read before the British Medical Society.]

Few subjects in the whole range of pathology are equal to that of cancer, in scope and importance. The frequency of cancerous diseases, their incurable nature, the loathsome breaches of structure they occasion, and the acute pain that attends their protracted course, are circumstances, in themselves, sufficient to command more than common attention. But for the pathologist, cancer has an interest of another kind, in the peculiar nature of the organic element of which its fabric is made up, and in its singular powers of growth and dissemination. In considering these circumstances, questions perpetually arise, involving in their decision doctrines of wide importance in pathology: analogies of the most interesting kind come into view, connecting this group of diseases, by essential relations, with others which lie wide apart from them, in our present systems of nosology.

To bring these fruitful subjects of discussion under the consideration of this society, is the principal object of the remarks, for which I now venture to ask your indulgent attention. But in order to do this, it will be necessary for me to lay before you a sketch of the general course and characteristics of cancer, and thus I shall, unavoidably, have to enter into some details, with which you are already familiar. In this I will, however, be as brief as possible. These details form the *text* for all the remarks which I shall have the honour to offer to your notice, and without the *text* the *commentary* would be unintelligible.

If we watch the whole course of cancer from its first origin in some external part,—as in the female breast, for example,—to its fatal termination, we observe the following series of events. At first all that can be discovered is a small, hard tumour, lying loose in the substance of the organ. This, now, constitutes the whole disease; for, at this time, there is no other tumour in the body, and the general health is not affected. If the cancer be cut out at this very early period, it sometimes happens that the disease never returns, and that the patient is radically cured. This is a very important fact; not only in a practical point of view, but also in relation to our theory of the disease. But if, instead of being removed, the cancer is allowed to take its course, the following changes occur. The tumour continues to grow, and in its growth contracts adhesions with all the surrounding parts. The tissue of these parts is invaded by the new structure, and is soon obliterated by it. When the tumour has attained a certain size, it begins to soften in some part of its mass: soon after this, fluctuation may be felt; the skin becomes inflamed and ulcerated, and the tumour, bursting, becomes an open sore. The characters of this sore I have no need to describe. But while these changes take place in the original seat of disease, others occur in distant parts, which are much more important to my present object. In the first place, the glands in the *axilla* become enlarged, and, sooner or later, symptoms of visceral disease usually come on, together with hectic and emaciation, under which the patient gradually sinks. In some cases, a short time before death, cancerous tumours appear, in countless number, immediately under the skin.

Now, when the body of a person who has died in this way is examined, not only are the lymphatic glands in relation with the original seat of disease found converted into cancerous tumours; but the substance of the viscera, also, is studded with them. This question, therefore, at once arises—In what manner has this taken place? It is evident that the glands in relation with the tumour have become infected by absorption of cancerous matter, in the same way in which bubo is caused by absorption of syphilitic virus from a chancre. The lymphatics leading to these glands are always loaded with this matter. But the infection of the viscera, and of the system at large, cannot well have been effected through this channel. The blood is the only medium qualified, by its nature and diffusion, to be the means of such wide dissemination; and it is, in fact, by the agency of this fluid that the general infection

* I may observe in this place, though I hope to be able to treat this interesting question more specifically hereafter, that during the act of assisting the digestion of food, *the saliva is itself digested.*

takes place. This admits of complete demonstration. The first fact which strikes attention, as bearing on this question, is, that the viscera which are most liable to become infected with secondary cancer, are the very same in which foreign bodies in the blood usually stagnate; namely, the lungs and the liver.

When mercury is injected into the veins, the substance of those organs is found studded with a countless number of globules of this metal; and it is notorious that when pus finds its way into the blood, its corpuscles lodge in the same textures, and there become the centres of a vast number of disseminated abscesses. Now the tumours of secondary cancer are not only disseminated through the substance of the lungs and liver in the same scattered manner, but they make their first appearance in the same anatomical elements of these organs. In their early state the form of these tumours is in the liver exactly that of its acini, and in the lungs that of its lobules; and, I need scarcely add, that the same is the case with the abscesses of these organs, which follow the introduction of pus into the veins. *

From all these facts the inference is plain, that the morbid matter in both cases is disseminated through the same channels. The cancerous matter, like the pus, having found its way into the circulation, lodges in those capillaries by which the course of other foreign bodies is arrested, and there becomes the germ of a new growth, which is itself a repetition of that by which this matter was first produced. That the matter of cancer may become detached from the original growth, and be carried by vessels to distant parts, and that it may there become the germ of a new growth like to the first, is proved by the manner in which the lymphatic glands become contaminated. The only fact needed, therefore, to complete the demonstration, is the detection of cancerous matter in the veins leading from parts affected with the disease.

Now, in almost all cases of general cancerous infection, not only are the principal veins leading from the original growth loaded with cancerous matter, but palpable masses of this matter are found included in the coagula of these veins, and even in those of other veins at considerable distances from the seat of disease. There are numerous representations of these facts in the plates of morbid anatomy now on the table.—Cruveilhier, Anat. Pathol.; Carswell, Illustrations.

It may be considered, therefore, as completely established, that the secondary tumours with which the viscera and other parts become infested in these cases, originate from germs which, becoming detached from the parent growth, have found their way into the blood, and have been deposited by it in their new situations. The proof here is of exactly the same order as in the case of phlebitis, only that it is more complete: there is not one link wanting in the whole chain of evidence.

According to these views, then, the general cancerous infection is wholly effected by dissemination from the original tumour. Some rare cases do, indeed, occur in which there is reason to suppose that the first formation of cancer has taken place at more than one point; but these do not affect the doctrine here advanced. I speak here of the general infection of the body; and the only difference is, that in these cases this infection takes place from two or three points instead of one. The secondary tumours also bear evidence, in their anatomical characters, of their later origin. Add to this the fact, already adverted to, that when the original growth first appears, there is no evidence of similar disease in other parts of the body: also, that when it is cut out at an early period, a radical cure is often obtained, and there will scarcely remain a doubt of the truth of this doctrine. The strict analogy of the case, in all points touching this doctrine, with that of general purulent infection, by pus derived from a single source, is a decisive confirmation of it. The cancerous matter, however we may account for its origin, is almost always first formed at a single point; and the tumour which is there developed, is the source of all the after-contamination. This is a truth of first-rate importance. And although it is very generally admitted by those who have well considered the subject, I have been anxious to bring forward the evidence on which it rests, because very vague and unsettled notions on this point are still prevalent in the profession. Surgeons, in particular, do not appear to me to have kept it clearly and steadily in view, nor to have insisted upon it with the firmness its importance demands. At all events, they have not uniformly enforced the practical precept to which it so imperatively points; namely, the early extirpation of cancerous growths wherever this is feasible. The efficacy of this practice is placed beyond a doubt, by the numerous cases of cancer of the face, in which it proves completely successful. That this is not owing to any want of power in this variety of cancer to infect the system, is abundantly shown by cases in which the operation is too long deferred, or in which the disease is allowed to take its course. The true and, perhaps, the only reason why extirpation is so much oftener successful in cancer of the face, than in that of other parts, is, that the disease, from lying open to view, is recognised at a much earlier period in this

* Cruveilhier notices another point of agreement, in the following words:—"De même que les abcés multiples du foie, suite de phlebite, le cancer par masses disseminées affecte une sorte de predilection pour la surface de l'organe."—Anatom. Patholog.

situation, so that its removal is determined upon and accomplished, before it has had time to contaminate neighbouring parts, or the system at large.

In this rapid sketch of the usual course of cancer, my chief object has been to bring prominently forward the two fundamental characteristics of the disease; namely, its irresistible tendency to invade and destroy all structures within its immediate reach, and its singular power of self-dissemination by means of germs from the parent growth. These characters are peculiar to cancer, and all morbid growths which possess them, however they may differ in outward appearance, or other minor peculiarities, are but varieties of one disease. They are, indeed, very wonderful properties, and the anatomical and other characters of the structures to which they belong, and, in particular, the nature of that element which plays the part of germ in the dissemination of the disease, have naturally long been objects of lively curiosity and sedulous research.

All these points have lately been investigated with complete success. It is familiar to all, that the substance of cancer is generally made up of two principal elements, a pulpy matter, deposited in the meshes of a fibrous web.

The blood-vessels by which cancerous growths are nourished are, also, very easily seen, especially when previously injected. Some varieties of cancer are, in fact, remarkable for their high degree of vascularity. Under the microscope the fibrous element of the growth retains its fibrous aspect, even when viewed under a high power, but the pulpy matter appears in an organised form of a highly interesting kind. This matter (as I presume you are already aware) is then seen to be almost entirely made up of cells, having all the characters of those which are now known to play such an important part in the formation of all organised tissues.

These cells are, for the most part, globular, but some are caudate, or spindle-shaped; and in some varieties of cancer the latter form predominates. They nearly all have parietal nuclei, and their cavity contains a great number of granules, which are supposed to be cytoblasts, or germs of new cells. Granules of the same kind often lie crowded in the intervals between the cells, and sometimes even form the greater part of the mass. It is important to remark, that in most forms of cancer the cells cohere but very slightly, so that notwithstanding the thinness of their walls, they may be detached from one another, and isolated with the greatest ease; nor have they any apparent attachment to the fibrous texture, in whose meshes they lie imbedded.

You are probably most of you acquainted with Müller's drawings of these objects. You may see the objects themselves in the microscopic specimens of cancer now on the table. One of these specimens is encephaloid, or soft cancer; the other colloid, or alveolar cancer: a variety which has this remarkable peculiarity, that several generations of cells are often included one within another, like a nest of pill-boxes.

Now, since it is known that almost all tissues, whether animal or vegetable, are formed by development from cells having these characters, there can be no doubt that the cells now described are the true formative element of cancerous growths. These growths, surely, do not form the single exception to a law which is so general as to include almost all the various tissues of animal and plant. But besides this, no where are the formative attributes of these cells more manifest than in cancer. Numbers of cancer-cells contain young cells within their cavity, and others are scattered in abundance through the crowd, which, in their smaller size and other characters, betray their secondary origin. In a single growth, in fact, you may often meet with cells in every stage of development, from their first rudimentary state to that in which, as spindle-shaped bodies, they are passing into the form of fibre. But if it be admitted that these cells are the formative element of the parent growth, it seems to follow of necessity tha they are also the germs, or seed, by which the disease is disseminated over the body; for it is clear that these germs must belong to that element in which the formative power resides, since by them new growths are engendered, identical with the first. You will remember, also, that these cells cohere but slightly, so that by this condition they are well suited to the work of dissemination.

This view is confirmed by other considerations. I have already called your attention to the fact, that not only are the germs of secondary cancer most commonly deposited in the lungs and liver, in the same manner as globules of pus or mercury that have found their way into the blood, but that they make their first appearance in the very same anatomical elements of these organs. Now this can only happen from some common condition, and the only thing that cancer-germs and globules of pus and mercury can have in common is outward form. I need scarcely add, that the only element of cancer having the form required are the cells now described. The lodgment of all these bodies in the texture of the lungs and liver is, undoubtedly, determined, in great part, by mechanical conditions, and most probably happens because their particles are too large to traverse freely the capillaries of these organs. It is plain, therefore, that the cells just now described are the all-important and essential element of cancer.

Each cell may be regarded as the individual representative of the disease, since it

contains within itself all the powers required for its development and dissemination; and when the microscopic minuteness of these cells is considered, this view acquires a fearful interest for the operator: for, although after the removal of a tumour, large numbers of them should be left behind, they necessarily remain unseen, so that the surgeon has no means of knowing whether the extirpation be complete, a consideration which singularly enhances the recognised importance of cutting as wide as possible of the growth, as giving the best and only chance of securing this.*

How far the granules which lie within and between the cells share in their attributes is not exactly determined. While these granules are in close connection with the cells of the parent growth, they seem to have the power of evolving new cells, so that they may possibly retain this power when detached from it; but from what has already been said, it is evident that the production of new cells in the original growth, as well as the dissemination of the disease, are chiefly the work of cells already formed.

Before we proceed further, it may be well to pause and contemplate for a moment the wonderful endowments of these bodies. Nourishing themselves at the expense of the organism in which they are implanted, but in other respects independent of it, they may be fitly styled parasitic growths. Of their independent vitality they give sufficient proof, not merely in their power of indefinite development by successive generation of new cells, but in the retention of this power when detached, and in the character of isolated beings they are separated from the parent growth, and transported to remote parts of the system. Viewed in this character they offer a very striking spectacle: for the only time in the long train of maladies to which the human body is liable, does the essential element of disease appear in this form.

In the large and important group of contagious diseases we do, indeed, encounter an element having, like this, the power of multiplying itself at the expense of the organism into which it is received; but that element is not tangible to our present instruments of research, and its shape and character are alike unknown. Whether it be a chemical substance merely, or an organised thing, we cannot tell; nor do we know the manner of its increase. But in the present case this element is an object of sight, of definite shape, and an organised form. It is certain that here increase is not the result of a chemical state, but the growth of a living thing.

All the interesting speculations into which we are unavoidably led, in discussing the origin of contagious principles, renew themselves here, therefore, in a more definite form, as attached to a palpable object, and rendered doubly interesting by their still closer connection, in the present case, with the mysterious question of spontaneous generation. But as these speculations will again force themselves upon us when considering the causes of cancer, I will not now pursue them.

After all that has been said, it is almost superfluous to remark, that cancer is not a repetition of any of the natural tissues of the body, but something of essentially different nature. It is extraordinary that Müller, to whom we are indebted for almost all we know of the minute anatomy of cancer, and of the attributes of its elementary parts, should hold a contrary doctrine. "The essential elements of cancer," he says, "are nucleated cells and fibres; but these are also the elements of the natural tissues: therefore, there is no essential difference between the two." He might as well have argued that there is no essential difference between the flesh of an animal and the parenchyma of a plant, for this, too, is made up of small nucleated cells and fibres. The chief object of the memoir in which the important part which cells perform, in the formation of all living tissues, was first made known, was to prove the identity of plants and animals in ultimate structure, and in their mode of growth and development. Its title was to that effect.*

In works on minute anatomy we continually see it stated that certain tissues are made up of cells, exactly like those of vegetable parenchyma. But are these things the less for that essentially different in their natures? The microscope, in revealing to us the existence of cells, alike in structure in almost all the tissues of animals and plants, and having the same important formative endowments in all, has disclosed a law of higher generality than any yet attained to in physiology, and has admirably simplified our views of structural development; but by the very fact has also shown that we are not to look to these minute anatomical elements for specific characters and distinctions. Under the microscope, vegeta-

* It seems to the writer that this point may, in part, be determined by microscopic examination of the portion removed. If the characteristic cells were found on the cut surface of this portion, it would be morally certain that others have been left behind, and that the extirpation is incomplete; although, on the other hand, the absence of these cells would be by no means so sure a guarantee of their entire removal. Such an examination would, however, always be a matter of great interest to the surgeon.

* Mikroskopische Untersuchungen über die Neber-einstimunung in der Structur und dem Wachsthum der Thiere und Pflanzen. Schwann. Berl., 1839. 8vo.

ble parenchyma and cartilage, in its early state, are one. For essential distinctions of nature we must turn to other qualities and other attributes. Need I say how widely those of cancerous growths separate them from the natural tissues of the body?

I have laid some stress on this point, because I think it one of much importance; for there can be no doubt that this essential difference of nature between cancerous growths and the normal tissues of the body is closely connected with the independent powers of life and nourishment these growths possess, if not their very foundation. No morbid growths which are but repetitions of natural tissues have such powers. No one of these breeds germs that carry with them to distant parts independent powers of life and nourishment.

It would be out of place here to enter into a particular description of the different varieties of cancer. You are well aware that, in different cases, great varieties are observed in the outward appearance and general texture of cancerous growths, as also in their degree of vascularity, relative rapidity of development, and other physiological properties. These varieties are indeed so considerable, and relate to points of such material importance, that many pathologists have been led to regard some of the morbid growths in which they are found, not as mere varieties of one disease, but as really distinct in *species;* but the contrary may be proved by paramount considerations.

The single fact, that the encephaloid, or soft kind of cancer, is generated alike by germs from all the other varieties, is in itself conclusive, for this is the highest proof of specific identity that can be had. It is well known that, whatever be the form of the original cancer, the secondary tumours are almost always of this kind. Nor shall I discuss at any great length the conditions by which the rapidity of the growth and dissemination of cancer is determined. It is quite evident that the principal of these is a plentiful supply of blood-vessels; for the rapid growth and for the effectual dissemination of cancer, a good supply of vessels is alike required: in the first case, to bring plentiful nourishment to the parent tumour; in the second, to furnish channels for carrying away its germs. For the second object, it is also necessary that these germs should become easily detached, or, in other words, that the parent tumour should be of soft and loose consistence.

In the encephaloid variety these conditions reach their acmé, and accordingly this variety is notorious for its terrific rapidity of growth and wideness of dissemination. In the other varieties of cancer they attain their highest point at the period of softening, and it is well known that at this period a sudden and remarkable increase takes place in the rapidity of both these processes.

I have only one remark more on this topic; it is self-evident that the extent of dissemination will, *cæteris paribus*, be greater the longer the time allowed for its accomplishment. For this reason it is generally much greater when the original cancer is seated in parts unimportant to life than when it occurs in vital organs; for, in the latter case, the patient dies of the original disease before sufficient time has elapsed to allow of wide dissemination. It is easy to conceive how this event may be further and largely influenced by varieties in the shape and size of the cancer-cells, in different forms of the disease, and by the general calibre of the vessels of the part in which the original tumour is seated. The relation between the calibre of the capillaries of other parts, and the size of the cells in its influence, as determining the seat of the secondary tumours, has been already considered.

In effect of variety in these numerous conditions, whether separate or in combination, endless varieties *necessarily* occur in particular cases, in the course and dissemination of cancer, and in the number and seat of the secondary tumours.

(*To be continued.*)

RAMOLISSEMENT OF THE BRAIN.

To the Editor of THE LANCET.

SIR,—If you consider the inclosed case of sufficient importance to deserve a place in Journal, its insertion will much oblige your most obedient servant,

WM. ALEXANDER, M.D.

Dundonald, April 2, 1842.

John Smith, aged 11, of spare habit and sallow complexion, for eight months complained occasionally of headach, chiefly referred to the forehead, which increased in severity during the five weeks preceding death, coming on in paroxysms of short duration, with intervals of two or more hours, though never entirely free from pain. When free from a paroxysm, he walked about, and amused himself with his companions; latterly he became inactive, his gait constrained, carrying his head steadily as if fearful of moving it; attended school regularly till within eight days of his death, and had never been confined to bed an entire day; appetite good, but had *vomited*, immediately after his meals, for fourteen days before death; bowels confined, with occasional griping pains; urine scanty, and high coloured.

I was called to see him for the first time on the 3rd of July, 1841, and found that he had shortly before vomited some flood, mixed with mucus and bile, and was standing

holding his head with both hands, complaining of great pain in the forehead, which abated in a few minutes; the face was much flushed, but became pale, with an expression of sadness on the cessation of the pain; the eyebrows were contracted; the eyes dull and heavy; the pupils dilated, but contracting to the light of a candle, and the upper eyelids relaxed; heat of skin natural; pulse 70, and firm; much throbbing of carotids; no secretion from nostrils; the Schneiderian membrane redder than natural; tongue white, and no thirst. Has had no medicine, except a few "worm powders." Ordered the head to be shaved, six leeches to be applied, and four grains of calomel at bedtime.

The calomel was given, and operated twice, after which the headach and vomiting ceased. The father did not think it necessary, therefore, to shave the head or apply the leeches; and on the 4th took him to a neighbouring town. On the 5th he again took him to a town five miles distant; he seemed to enjoy himself, walked all the way home, having had only one paroxysm of headach, and vomited once during the day. During the night he became restless, and complained of headach, but slept towards morning; a few minutes before eleven, a.m., he awoke complaining of the headach; a little girl only being in the house, went out to apprise his father, but before he arrived the boy had expired, apparently in entire possession of his faculties.

Inspection Forty-six Hours after Death.

No emaciation; countenance placid.

Head.—The sinuses of the dura mater gorged with a dark-coloured fluid blood. That portion of the arachnoid lying over the middle lobes of each hemisphere showed several opake spots. The pia mater was unusually vascular, and its vessels contained numerous bubbles of air. The convolutions much flattened; the cineritious matter of a pinkish hue; the medullary matter, when cut into, presented an immense number of bleeding points.

The ventricles contained three and a half ounces of a limpid fluid. The choroid plexuses were firm and vascular, and did not present the usual blanched appearance when fluid has been present. The whole floor of each lateral ventricle, and a small portion of the anterior lobe of the right hemisphere, were in a complete state of ramolissement, the parts being reduced to a greyish-coloured, pulpy mass; the other parts of the cerebrum were healthy. The left lobe of the cerebellum was healthy. On cutting into the right lobe it was found to consist of an apparently healthy shell, as it might be called, varying from a quarter to half an inch in thickness, the central substance being reduced to the consistence of pus; and imbedded in this was a tubercle as large as a walnut, rather oblong, nodulated, and grey in colour, the external covering resisting the knife; internally it presented no trace of organic structure, and resembled the medullary matter of healthy brain. The corpus olivare of the right side was much enlarged and firm. The medulla oblongata very firm. A considerable serous exudation in the spinal sheath: other organs not examined.

The absence of severe symptoms and the sudden dissolution are the points worthy of observation in this case. The headach and vomiting were the only symptoms, showing that a guarded prognosis ought to be given when they are present in anomalous cases. The experiments of Flourens, Serres, Magendie, Bell, and others, would lead us to expect that such a state of brain would produce either vertigo, convulsions, rigidity of extremities, strabismus, optical delusions, blindness, deafness, impaired or increased sensibility of skin, aphonia, loss of muscular power, aberration of mind, yet one and all were absent; and we have seen that the patient continued at school till a few days before death, and on the night before his death walked five miles. I might extend this paper by reasoning on these physiological observations, but it would be an unsatisfactory labour; and although from the acknowledged talents of the observers, I cannot say "experientia stultorum magistra," still this and similar cases show that we have as yet scarcely begun to deduce correctly the morbid state of the brain and nervous system from symptoms during life.

NOTE ON THE

RESPIRATION OF BIRDS.

By Marshall Hall, M.D., &c.

In the new edition of M. Flourens' admirable work, an account is given of an experiment in which the cerebrum and cerebellum being removed, and the pneumogastrics divided, in a pigeon, the respiration still continued.

Now, it is well known that the respiration in birds, as in insects, is *diffused*. It is ascertained that the different segments of the insect possess distinct nerves and nervous centres (analogues of the medulla oblongata) for respiration. This is not the case with birds; but

1. If the air-cells throughout the body be, like those of the lungs, supplied with nerves;

2. If these nerves be derived from the spinal nerves, like the other nerves of the general frame; and

3. If these spinal nerves possess the *excitor* property of the spinal nerves in other animals;—

If these things be, then the result of the experiment is precisely what the theory of

the reflex nature of the respiratory acts would have led us to anticipate.

When, in mammalia (especially the young), the cerebrum and cerebellum are removed, the respiration continues as a purely reflex action, exerted principally through the medium of the pneumogastric nerves; when these are divided, in addition, a few and rare acts of respiration occur from the influence of the trifacial and spinal nerves. In birds these spinal nerves are as really excitors of respiration as the pneumogastric itself; under their sole influence, therefore, respiration may continue for hours.

A series of experiments illustrative of the relative value of each of these parts of the nervous system would be highly valuable.

There is no reason, from any facts which we yet possess, to think that the medulla oblongata is the *primum* mobile of respiration. As the *secundum* mobile, the key-stone of the reflex arcs, its office is most clearly established.

London, May 11, 1842.

THE MINER'S ELBOW.

To the Editor of THE LANCET.

SIR,—I notice that Mr. Chance, at the Westminster Medical Society, on April 2, makes the following remark, namely, that "he had met with a fluctuating tumour at the posterior part of the elbow-joint. He opened it with a lancet, and found it to be a serous cyst; it refilled, but after opening it a second time the fluid had not again collected."

In the mining district in which I am situated this fluctuating tumour at the posterior part of the elbow-joint is of frequent occurrence, in consequence of the narrow passages the miner has occasionally to pass through, in ascending from and descending to, and sometimes to work in; the posterior part (or cap) of the elbow-joint is bruised, in consequence of which the bursal sac becomes inflamed, and an effusion of serum follows. To this tumour I have for several years past given the name of "the miner's elbow," its cause and its treatment being the same as the "housemaid's knee," which is simply this: in the early stage tepid bathing with water and a warm bread-and-water poultice, three times daily; and after this has been applied a few days, and the inflammatory action subdued, the dispersion of the fluid should be accomplished, either by the application of about half a drachm of the hydriodate of potash and iodine ointment combined, or of a lotion of two drachms of tincture of iodine to an ounce of rectified spirits of wine; to be used in drachm applications over the tumour three times a-day. The same treatment will cure the housemaid's knee; a complaint to which miners, from occasionally being obliged to kneel during their labour, are very liable.

I have seen several cases where this fluctuating tumour at the elbow-joint (miner's elbow) has burst, and from neglect a fistulous opening into the sac had been the result, in which nothing could be done but laying open the sac by a crucial incision, and causing granulations to spring from the bottom of the sac, to consolidate the whole.

I am, Sir, your obedient servant,

EDWYN GURNEY.

Camborne, Cornwall,
May 7, 1842.

*** At page 191 of the first report of the commissioners for inquiring into employment in mines, presented last week to the House of Commons, the following passage occurs (ED. L.):—

"790. The sub-commissioner for the Forest of Dean gives the following account of a painful disease of the joints, common in that district:—'The men employed in cutting down the coal are subject to inflammation of the *bursæ*, both in the knees and elbows, from the constant pressure and friction on these joints in their working postures. Where the seams are several feet thick, they begin by kneeling and cutting away the exterior portion of the base. They proceed, undermining, till they are obliged to lie down on their sides, in order to work beneath the mass, as far as the arm can urge the pick, for the purpose of bringing down a good head of coal. In this last posture the elbow forms a pivot, resting on the ground, on which the arm of the workman oscillates as he plies his sharp pick. It is easy to comprehend how this action, combined with pressure, should affect the delicate cellular membrane of the joint, and bring on the disease indicated. The thin seams of coal are, necessarily, altogether worked in a horizontal posture."

PHYSIOLOGISTS AND PHRENOLOGY.

To the Editor of THE LANCET.

SIR,—Whilst I cordially concur in the opinion expressed by Dr. Dick, that the discussion respecting the application of phrenology has occupied too much of your space, yet, as in his valedictory effusion he has introduced an objection, which I consider to be as unfounded as his previous observations, I cannot allow him to publish incorrect statements without offering a few remarks in reply. A brief notice is also requisite, because in the present instance a popular fallacy has been advanced, which can sustain neither the test of principle nor fact.

The portion of his paper on the "Opinions of some Physiologists on Phrenology," to which I refer, is his assertion that the "highest authorities in physiology are demurrers to phrenology." Now this is far from a well-grounded statement, as I shall subsequently prove; but even allowing the assertion to be a fact, it would present no substantial argument against the truth of phrenology. The eminent in science have not always been the foremost in the recognition of novel doctrines, even when the truths discovered have been connected with their own special branch of inquiry: nor is the fact extraordinary; for the mere renunciation of a former opinion is a public acknowledgment that they theretofore embraced erroneous conclusions, an avowal not the most flattering to self-esteem, and which requires a share of conscientiousness which falls to the lot of few men. Thus, the mere enunciation of a novel truth has generally occasioned the fiercest opposition, both from those who knew nothing, and from those who thought that they knew something. When, for instance, Newton's theory of gravitation was published, it was controverted by many men of scientific eminence; and I have never heard that, when Harvey propounded his opinions respecting the circulation of the blood, a recognition of their truth immediately followed, even from the "highest authorities in physiology." Hence the mere opposition of physiologists to a novel physiological doctrine is no proof that it is false, no more, indeed, than their adhesion would prove its correctness.

It has always appeared to me that the only persons who are competent to offer an opinion respecting the principles of phrenology are those who *understand* its doctrines. If this view be correct, it is obvious that from the competent class Müller must be excluded. For instance, in objecting to phrenology, he states that "no part of the brain can be pointed out as the *seat of memory*;" whereas the simplest elementary treatise would have indicated that phrenologists ascribe the function of memory to every intellectual organ. Thus we speak of colour as the recaller of hues, and of tone as the rememberer of sounds, and teach that a man may possess an excellent recollection of the one, whilst he is utterly incompetent to recall the other; if, therefore, the phrenologist cannot point out an organ for memory, which, indeed, would be a most difficult task, as it does not exist, he can at least indicate the localities of the recollective powers.

But even the mere understanding a doctrine would not substantiate the claim of a person to offer a dogmatic opinion on the subject; for although he might understand the theories of the earth's formation, yet he would not be entitled to offer any opinion as to their correctness, unless he had previously contrasted the speculations of the theorist with the facts presented by nature. Such is the rule adopted when criticising every other science,—Is phrenology to be the solitary exception to its application? On the contrary, I submit that, before any man can become competent to oppose it, he must at least show that he has examined the facts wherefrom the doctrine has been deduced; and hence that his objections have been drawn from similar sources to those from whence the phrenological theory has been derived. But I fear that few of the opponents of phrenology can be placed in this category: many condemn because they misunderstand, most object because they have never investigated.

But, recognising the correctness of the assumption that the general condemnation of phrenology by physiologists would prove its falsity, I shall endeavour to show that even the application of this test will afford no consolation to the anti-phrenologist. The very founders of phrenology, Gall and Spurzheim, were no mean physiologists; their discoveries respecting the structure of the brain are generally recognised; and their mode of dissecting the brain is adopted in many British and foreign medical schools. Amongst British physiologists who have avowedly embraced phrenology are, Abernethy, Conolly, Lawrence, Billing, Evanson, Johnson, Barlow, Forbes, Solly, and a host of as worthy names. It has also been adopted as the basis of the plans for the restoration of the lunatic at the Hanwell Asylum and the Dumfries Institution, two of the most distinguished lunatic asylums in the kingdom. Amongst men of science who have given in their adhesion to phrenology, may be enumerated Professors Nicholl, Reid, Drummond, and Wheatstone; Captain Maconochie (whose success in the application of phrenology to the moral reform of the convicts in Norfolk Island has been complete); Messrs. Buddle, Hutton, Woolhouse, and Snow Harris. Nor is phrenology without its supporters in the medical press; for it is advocated by the "Medico-Chirurgical Review," the "British and Foreign Medical Review," and THE LANCET; and if I am asked to mention the names of any continental physiologists who have embraced phrenology, the names of many may be cited whose fame is European. Thus I may mention Broussais, Vimont, Bouillaud, Fossati, Voisin, Andral, Ferrus, Sanson, Dumoutier, Cloquet, and Ehrenberg. To the names already mentioned many more might be added; but, to prevent the application of Dr. Dick's favourite phrase "disingenuous," I have not intentionally referred to any physiologist who has not publicly declared his adhesion to the science, either by writing or by his connection with phrenological societies.

In conclusion, I conceive that sufficient

facts have been adduced to show that those who believe doctrines not because they are true, but because they are fashionable; who build on precedent when they ought to appeal to reason; and who pin their faith to great names: even these persons, and their name is Legion, must acknowledge that phrenology is not so universally scouted as they suppose, and that the rejection of phrenology is not a necessary sequence on the possession of intellectual eminence. I am, Sir, yours truly,

E. J. Hytche.

12, Brunswick-terrace, Islington,
May 9, 1842.

PHRENOLOGISTS AND ANTI-PHRENOLOGISTS.

To the Editor of The Lancet.

Sir,—I had hoped that the controversy in which I was lately engaged had closed in all respects: but certain modes of expression of a correspondent (Mr. Heurtley), in the last number of your Journal, require me to solicit the insertion of two letters which will explain themselves, and to which I shall subjoin a very few remarks. I am altogether certain that your remarkable regard for fair dealing, will induce you to indulge me in this fresh call on your and your readers' patience, the necessity for which I did not anticipate when I last wrote to you. The letters above referred to are as follows:—

"9, Upper John-street, Golden-square,
May 15, 1842.

"Sir,—Although inadvertently, by *first* employing the word 'misrepresent' in reference to the communications of Messrs. Sampson, Davey, and Hytche, I thereby deprived myself of a right to object to *their* making use of the same term in regard to *my* communications, yet it must not be supposed that I can consent that you or any other person, to whom I have given no such ground, should employ that word, in its offensive meaning, towards me. I therefore request to be informed, as speedily as convenient, in what sense you make use of the phrase 'misrepresentations brought home,' which occurs in your paper in The Lancet, May 14. As this note and your answer to it must be published, whether the correspondence terminates here or not, I beg that your reply may be concise; the more especially, as I absolutely decline all further argumentation of the question to which your paper relates. I am, your obedient servant,

(Signed) "Robert Dick.

"R. W. Heurtley, Esq., Kensington.

"I direct according to your address as given in The Lancet, knowing no one more particular."

"Kensington, Monday night,
May 16, 1842.

"Sir,—I am favoured with your note of yesterday's date, requesting an explanation from me relative to certain expressions made use of by me in my letter to the Editor of The Lancet of the 10th inst. In reply, I beg to state that I employed the words "misrepresentations brought home" to express simply what I conceived to be *a plain matter of fact*. My whole meaning lies on the surface. By "misrepresentation," I mean misrepresentation and nothing more—not wilful perversion, nor deliberate mis-statement. An utter stranger to you personally, I am necessarily unqualified to judge of your motives, and I could have neither the wish nor the intention to impugn them. In adopting the term 'misrepresentation,' I made use of one that had previously found a place in one of your own letters, and in those of your correspondents; one which, as used by gentlemen, I had accepted in its most *obvious, direct, and unobjectionable* sense. To that term, when employing it myself, I attached a similar value.

"The familiar phrase 'brought home to him,' simply expressed my idea of the convincing character of Mr. Sampson's explanations addressed to you: your silence respecting those explanations warranted, I conceive, the inference which I drew, and which in no wise depends on the origin of the misrepresentations before named.

"I have furnished this explanation because I desire to be clearly understood; but I do not for a moment admit the right of any one party to a public controversy—a controversy open to all who may choose to take part in it—to call in question the use of a term by *one* opponent, previously employed by *himself* with reference to *other* opponents, and allowed when retorted by them. I am, Sir, your obedient servant,

(Signed) "R. W. Heurtley.

"Robert Dick, Esq., M.D."

I have only two observations to make. I would first call attention to the gratuitous, and, to me, injurious assumption of Mr. H., that I am actually convinced of misrepresentations having been brought home to me,* and withheld, by want of candour alone, from acknowledging that conviction. Had your correspondent allowed charity to operate, he would have reflected that it was at least possible that the only reason why I had not acknowledged these alleged misrepresentations, was just because I was not at all convinced that any such had been proved! It is surely the most possible thing in the world, that what may be proved

* Mr. H.'s words—"Dr. Dick's want of candour appears in his shrinking from acknowledgment and apology, when misrepresentations are brought home to him."

to the satisfaction of Mr. Heurtley, may appear destitute of proof to the writer of this note!!

As regards Mr. Davey and Mr. Hytche, I wish my use of the word "misrepresented" to be understood in an unobjectional sense. As regards Mr. Sampson, I request him to put on *my* use of the above phrase towards several of *his* statements *precisely* the same construction which he intends should be put on his own use of it in regard to mine. Faithful to my promise, I abstain from renewed discussion; yet, since my attention has been once more, and unexpectedly, called to the subject, I cannot help remarking, that your correspondent "Spectator," in expressing it as his opinion that phrenology leaves the question of human responsibility where it found it, virtually adopts the very view for which I have been contending, passing, at the same moment, a verdict of condemnation on that of Mr. Sampson; while, in characterising the dogma that phrenological development should release from responsibility "a *most* dangerous doctrine," he employs language of greater severity than I myself had done. I am, Sir, your obliged and obedient servant,

ROBERT DICK, M.D.

UNIVERSITY COLLEGE HOSPITAL.

CASES OF STRANGULATED FEMORAL HERNIA TREATED BY OPERATION WITHOUT OPENING THE SAC.

CASE 1.—E. C., aged 73, was admitted March 20th under the care of Mr. Liston. She is married, and the mother of ten children. Nine years ago she had a violent fall, since which she has been the subject of femoral hernia of the right side after any exertion: up to the present time it had always been completely reducible. After walking some distance on Sunday the hernia descended larger than usual, and was irreducible; soon after she felt great pain in the abdomen, and applied for relief at the St. Pancras Infirmary, from which institution she was immediately sent to the hospital. On her arrival she was placed in a warm bath, and the taxis used for some time without effect. Enemata were given during the night without producing an evacuation; vomiting came on, and the tumour became more tense and painful; the abdomen also was tender. Mr. Liston was sent for at seven o'clock on Monday morning, and on his arrival proceeded to operate.

The patient being placed on the operating table, a fold of integument was taken up between the finger and thumb, and a scalpel passed through. It was then divided from within outwards, so as to make the incision parallel with Poupart's ligament; another incision was then made by raising the lower flap of integument and passing the scalpel beneath it, and cutting from within outwards, so as to make it fall at right angles with the preceding one. By careful dissection the sac was then exposed, but *not opened*, the stricture divided, and with a little manipulation the portion of strangulated intestine easily reduced. The lips of the incision being then brought together by sutures, a compress and spica bandage were applied, and the patient carried to bed.

21. Two, p.m. Bowels have not yet been opened; has vomited since the operation. A copious enema of soap-suds was administered by the forcing syringe.

Eight, p.m. Bowels have been once opened; abdomen tender on pressure. Eighteen leeches to be applied.

22. Has passed a good night; pain relieved; no vomiting; sutures of wound removed; it was dressed with strips of isinglass plaster, a compress, and bandage.

23. No pain or tenderness of the abdomen; tongue moist, rather coated; pulse 90, and soft; wound looking well.

24. An erysipelatous blush around the wound; tongue dry, and rather coated; pulse 100; has slept well; fomentations to the part. To have the following mixture:—

℞ *Extract of aconite*, gr. j;
Sulphate of magnesia, ℥ij;
Antimony wine, ℥ss;
Mint water, ℥viij.

Two tablespoonfuls to be taken every four hours.

25. The erysipelas has extended, and two or three vesicles have formed; considerable hardness around the incision; tongue furred and dry; bowels open; complains of no pain; pulse 90. A solution of nitrate of silver to be applied.

26. The erysipelas has not extended since yesterday; tongue brown and dry; thirst; bowels open; no pain or tenderness. There is considerable discharge from the wound, the edges of which are very much indurated. A large poultice applied over the wound; pulse 100, and very weak. To have beef-tea and wine.

27. Not so well this morning; erysipelas extending towards the left groin; pulse and tongue as yesterday; bowels not open.

28. Bowels have been opened once; she seems altogether better than she was yesterday. Wine and beef-tea continued.

29. The wound has assumed a sloughing character; there is considerable discharge, which is rather fœtid. A slight sore has formed over the sacrum; the patient was, therefore, placed on the water bed; in other respects she is better.

30. The parts around the wound that have been affected with erysipelas are beginning to slough. A large poultice to be applied over the whole, with a little solution of the chloride of lime. To take beef-tea and wine frequently.

April 1. Has passed a very good night; tongue cleaner, and more moist; pulse 100, and weak; a quantity of slough was removed from the wound. Poultice to be continued. Ordered a chop with half a pint of porter daily, wine, &c.

3. The wound looking much cleaner, and also the parts around; pulse stronger.

9. Has been going on well since the last report; the wound and the adjoining parts are becoming cleaner, and the patient gaining strength.

12. The whole surface covered with healthy granulations. Dressed with water dressing.

14. The bowels were very much relaxed yesterday and during the night. To have an ounce of compound chalk mixture three times a-day. Continue the wine, beef-tea, and four ounces of brandy daily.

18. Relaxation of the bowels has ceased, and she is much better; cicatrisation going on very rapidly. The red wash substituted for the water dressing.

19. Has been troubled very much with cough, which she says she has had for some time. To have the following draught three times a-day:—One drachm of the acetated liquor of ammonia; three grains of nitrate of potash; ten minims of ipecacuanha, and an ounce of water.

22. Continues to improve in every respect.

24. Complains of feeling very ill to-day, and is unwilling to be disturbed; tongue dry and furred; pulse 120, and weak; surface of the wound not looking so healthy; considerable mucous rhonchus heard all over the chest; bowels rather relaxed. Ordered as much nourishment as she will take.

25. Has taken nothing since yesterday; is gradually sinking. Died at eleven o'clock, a.m.

The body was examined twenty-four hours after death. Abdomen only inspected. The portion of intestine that had been strangulated, about two inches in length, was found still retaining a dark chocolate-coloured appearance. A small piece of omentum was found in the sac and adherent to it. Peritoneum perfectly healthy, no traces of inflammation having existed.

Case 2.—Jane Dorey, aged 49, was admitted March 21, 1842, under the care of Mr. Liston; is married, and has borne five children. Five years since, as she was lifting her mother into bed, she felt the sensation of something having given way at the lower part of the abdomen, and immediately after perceived a small tumour in her left groin about the size of a walnut; it caused her no inconvenience, and she could reduce it at pleasure by lying on her back and using gentle pressure. She has at various times suffered from flatulence and colic, which were generally relieved by purgative medicine. On the Saturday previous to her admission, after standing to iron the whole day, the tumour increased in size considerably, and she could not reduce it by the means she had generally resorted to: soon after this she felt sick, and vomited, and continued to do so through the night, with pains occasionally in the abdomen. These symptoms continued through the next day (Sunday), and in the evening she called in medical assistance. The taxis was attempted, but unsuccessfully. Six grains of calomel and one of opium were given directly, followed by five grains of compound extract of colocynth, every four hours. An enema was also administered, and she was ordered to lie in the supine position. The vomiting ceased during the night, and there was no return of it until twelve o'clock on Monday, and there was little pain in the tumour or the abdomen. In the evening, however, pain in the tumour came on, and the vomiting returned; the bowels had been relieved once. She was then ordered to come to the hospital, where the taxis was again tried, but again unsuccessfully. Calomel and opium were given every four hours, and enemata were administered. No vomiting occurred during the night; but in the morning, after taking some croton oil, it returned, and continued to increase, becoming stercoraceous. The tumour now was very painful and tender. Mr. Liston visited her at three o'clock, and determined to operate, which he did in his usual manner, with the exception of not opening the sac. He returned the intestine; a small piece of omentum was left unreduced. The edges of the incision were brought together by three points of suture; a compress and spica bandage were applied.

22. Expresses herself easier; has vomited twice since the operation, but not stercoraceous matter; bowels rather relaxed. Half a grain of opium to be given every four hours.

23. Has slept well for the last six hours; no return of the vomiting; bowels still relaxed; tongue furred; pulse 100. Two grains of calomel and half a grain of opium every four hours.

24. An enema of starch and tincture of opium was given last night, as the relaxation still continued. Has passed a quiet night, the bowels having been opened once; pulse 80, and soft; no pain in the abdomen; tongue not so much coated as yesterday: the pills to be omitted. Dressing not removed from the wound. In the evening there was a return of the vomiting; the bowels have continued quiet during the day. To have four grains of calomel and half a grain of opium.

25. Passed a good night; bowels again relaxed; tongue moist, but furred; skin moderately warm; pulse 96, soft and compressible.

Night. Has been free from pain during the day; has taken only barley-water and tea; gums affected by the mercury.

26. She has slept a good deal during the night, but has had a recurrence of the purging, for which an opium enema was given; there is no heat of skin, tenderness, or pain; pulse 90, soft.

Evening. During the morning she was sick, once after taking some cocoa, and once after sucking an orange; bowels moved by an enema. To take only tea and toast-water, with a little broth; complains of flatulence, belly somewhat distended. To have a drachm of tartrate of potash in an ounce of mint water every four hours. In the afternoon she was sick again, no stercoraceous matter vomited: she had been under treatment for pyrosis before coming to the hospital. Add four minims of hydrocyanic acid to each draught.

27. Has had no return of vomiting during the night; bowels have been opened twice; slept well the latter part of the night; no pains or tenderness in the abdomen; tongue less furred and more moist; pulse 85, and languid; wound looking very well; isinglass plaster removed, and water dressing substituted. To take arrow-root with a little wine.

28. No return of vomiting or purging; has had a good night; pulse 80, and soft; tongue cleaner and moist; wound looking very well. The same dressing continued, with spica bandage.

29. Seems to be going on well; has had some purging during the night; this has now ceased; tongue clean; pulse quiet and regular; appetite returning. To take a little meat; wound healing rapidly.

April 10. The wound healed on the 4th; she has gone on excellently since, and was discharged to-day quite cured.

Case 3.—A. W., aged 36, was admitted March 24, 1842, under the same surgeon as were the two previous cases. The patient is single, of dark complexion, and bilious temperament; she says that for the last three years her health has been very indifferent; she has, during the greater part of the time, laboured under femoral hernia in the right side, produced by a fall from a stool when endeavouring to reach beyond her height. About a year afterwards she observed a swelling in the groin, which, at times, was as large as an orange, but was generally reducible without any difficulty; occasionally it remained down for two or three days; has only worn a truss for three months.

On Sunday morning, the 20th, the bowel came down, owing to her having left off the truss whilst dressing; she had two stools soon afterwards, but the tumour could not be returned. A medical man attended her during the two following days, administered enemata, and employed the taxis and warm bath without success. When admitted there was a small swelling in the right side, not very tender on pressure; integuments slightly discoloured; bowels not opened since the 20th; she has suffered violently from spasms. Mr. Liston examined her immediately she was admitted, and finding that the tumour was very tender, and that long-continued efforts at reduction had been already made, proposed to operate, which he did immediately. The sac was not divided with the stricture, but gave way in getting back the intestine, as it was exceedingly thin, and contained a good deal of fluid. A quantity of bloody serum escaped from the opening; the wound was brought together by sutures, and compress and bandage applied, when the patient was in bed. Some hours after the operation she complained of pain in the bowels. Twenty-four leeches were ordered to the abdomen, and two grains of calomel and a quarter of a grain of opium to be taken every four hours.

25. Has passed a tolerably quiet night; bowels opened about ten o'clock; tongue coated, but moist; pulse soft, 95; abdomen a little tender; sutures taken out; edges of wound kept together by adhesive plaster.

26. Slept pretty well during the night; wound looks healthy; complains of no pain; skin moist; pulse compressible, 110; tongue coated; bowels open this morning; she complains of great flatulence of the abdomen, which is much distended with gas. Omit the pills, and let her have the following draught every three hours:—Half an ounce of the acetated liquor of ammonia, ten minims of the aromatic spirits of ammonia, and an ounce of camphor mixture.

27. Pulse 100, soft; tongue rather cleaner; skin hot; bowels relaxed; complains of pain and difficulty in making water; strapping and compress applied to the wound; the flatulence and abdominal distension undiminished. Omit the medicine, and substitute the following:—A scruple of carbonate of magnesia, two minims of oil of cajeput, and an ounce of water, to be taken every three hours.

28. Bowels still continue relaxed; pulse 95; wound open; slight discharge; water dressing; there is a little erythema on the inner side of the wound.

29. Slept comfortably; considerable discharge from the wound; surrounding parts a little inflamed. Poultices to be applied.

30. Feels much better; wound discharging freely. Water dressing applied. Bowels confined. To have half an ounce of castor-oil; pulse 98; tongue coated, but moist.

31. Mouth and gums slightly affected by the calomel. To use the following gargle frequently:—One drachm of liquid chloride of lime and eight ounces of water.

April 1. Wound healthy; warm water dressing; pulse regular; tongue coated; bowels constipated. An ounce and a half of compound decoction of aloes to be taken occasionally the first thing in the morning.

29. Since the last report she had consti-

nued to improve daily, having had no bad symptoms, except a slight cough, which lasted but a few days, and she is now perfectly removed.

RUPTURE OF THE BLADDER.

QUESTION OF MEDICAL JURISPRUDENCE.

To the Editor of THE LANCET.

SIR,—The case of William Sykes,* reported in THE LANCET of last week by Mr. Hiley, of Elland, is rather an interesting one, at least in a *medico-legal* point of view, as the *liberty*, if not the *lives*, of one or more individuals will no doubt depend upon the medical witnesses examined upon the day of trial.

One circumstance, then, connected with the case, I cannot allow to escape my notice, and that is, that the morbid appearances seen upon *autopsy* of the body, do not (in my opinion) sufficiently elucidate the immediate cause of the poor man's death. The brain, lungs, and heart were sound; the stomach and bowels were quite normal, with the exception of the *ileum*, which was of a chocolate colour, but only externally; internally, the whole course of the intestinal canal was in a normal state. The liver, gall-bladder, and kidneys were also sound. The urinary bladder was ruptured on the upper and posterior part, but notwithstanding it appears to have retained its contents, as there is no positive evidence to show that any urine escaped: moreover, it had so far regained its expulsive power, as to afford the sufferer the gratification of passing his urine in the natural way, so late as the day before his death.

The question then is, What was the immediate cause of the man's death? The rupture of the bladder, and the beating (though, by the way, there were no marks upon the body externally, to show that he had been severely beaten, or even beat at all), I am willing to grant, were, perhaps, the remote cause; but the autopsy of the body, surely, ought to have manifested the immediate cause of death. This does not appear to have been the case.

I hope Mr. Hiley will kindly favour the readers of THE LANCET with some further particulars, and some satisfactory cause of the poor man's dissolution; and also, why it was considered "a most wonderful circumstance," that the patient should have lived so long "under so severe an infliction." I am, Sir, your obedient servant,

S. G.

May 16, 1842.

* I am not aware that the case of Sykes has yet been tried.

THE LANCET.

London, Saturday, May 21, 1842.

THE new Poor-law has an imposing appearance; and, dealing with large masses, works like a vast machine in its manifold arrangements. But it has in it nothing organic; it is all machinery; it has neither hands to help, nor feet to visit, nor eyes to see the poor and afflicted; it has no living blood in its arteries, no throbbing heart, no voice of tenderness, no human soul. God never made it; humanity never blessed it.

The principle of a just Poor-law should approximate as nearly as is practicable to the principle of friendly societies. The community should be subdivided into small districts, such as our small parishes, (the members of which would know each other,) for the administration of relief. The amount of relief should be regulated by the wants of the poor, and the means of the rate-payers; but in no case should the aged and infirm, the widows and orphans, want the necessaries of life, among which we include medical attendance and advice in sickness. The vast workhouses would not be required; for the reception of destitute wayfarers, and the *aged and infirm who had no children*, two or three houses of the nature of the old Christian hospitals may be provided in each district; the prison-functions of the workhouses would devolve on the Houses of Correction. The relief should be generally administered by the parishioners themselves for their own sakes; as nothing improves the character more than visiting and relieving the distressed; and good nature, like all other faculties, requires exercise on legitimate objects. The friendly societies only provide relief in sickness and infirmity; and as a general rule parishes would be called upon to do little more; for if employment and subsistence exist in the place, they could be procured by the labourer; if they never

existed, they could not be permanently provided by the community. A subsistence-assurance is not easily effected. To support the families of the poor during the fluctuating depressions of trade, or the inclemencies of the seasons, their employers and the fixed property of the country are, however, to a certain extent, engaged; they retain the custody of the money, and the control over its distribution, in their hands, on the same ground as the Government keeps back the funds out of which discharged officers, soldiers, and sailors are paid. Labour should be insisted on as a return for temporary relief from the able-bodied, not merely as a test, but to carry out useful public works.

"Upon this plan," it will be objected, "the rate-payers would give away too much "to the poor." Is it likely, we ask, in reply, that they will give away too much of their own money? They are the best judges of their own means; and when you take in all the rate-payers, and get the average result, we fear that it will not be found to lean to the side of excess of charity, though it will, no doubt, exceed in amount the sums actually expended for the relief of the poor.

We have not the slightest pretension to laying down the plan of an amended Poor-law; but wish only to express the strong objection which we entertain against the characteristic principles of the present law, namely, withholding as much from the poor and rendering relief as disagreeable and worthless as possible by uniting parishes in unwieldy districts, applying rigorously the horrors of the workhouse-test, and employing underpaid medical officers.

Can there be any greater piece of madness than the introduction of the workhouse-test of destitution into Ireland? Why erect workhouses? Why collect the wretched in prisons? Is not the destitution too well established? Can you stir without seeing it, without feeling it? What test do you want? You will only devote a small amount of the rents and profits to its relief; why not give this pittance in the manner most agreeable to the feelings of the recipients? Why insist that they should receive it in workhouses, which they feel are prisons, where the chain they wear is hunger? If you have money to expend in buildings, improve their narrow, dirty, unventilated huts, and impart to them some ideas of domestic comforts and personal cleanliness; do not break up their families; generate and foster fevers; slaughter their infants and old men in workhouses.

In bringing the question of medical relief before the Committee of the House of Commons, and in all our discussions on the subject, we have taken the Poor-law with its Central Commission as it is. We shall continue to do so; we have stated our opinion briefly to avoid misconstruction, and shall neither argue here against the continuance of the Commission nor its machinery.

But assuming that the central office is to exist as an indispensable part of the new law, we shall now show that it is the duty of the Commissioners to fix a scale of remuneration for medical attendance on the poor. The Parliamentary Poor-law Committee, after a careful and certainly unprejudiced consideration of the evidence submitted to them by the medical witnesses, expressed the opinion (in which the country will agree) that "*the remuneration of medical officers* "*should be such as to* INSURE PROPER ATTEN- "TION AND THE BEST MEDICINES." The Poor-law Commissioners in their late explanatory letter, comment on this axiom in the following terms:—"The Guardians will doubtless "perceive *that unless the medical officer be* "ADEQUATELY REMUNERATED, *no vigilance on* "*their part will suffice to secure* PROPER AT- "TENDANCE *to the poor under his care.*" This is the result of their experience and observation.

Now, what is the present rate of remuneration? Is it adequate? Is it sufficient to insure for the sick poor "proper attention and the best medicines?" It is *about* 3*s.* 3*d. per case* on an average; and the wholesale price of medicines in *hospitals* comes to the same sum per case. At the most moderate estimate it was demonstrated before the Parliamentary Committee that "medicines"

will cost 2*s.* 6*d.* per case, without allowing anything for the trouble of compounding them. There will remain 9*d.* per case,—say *three-halfpence* a visit, for attendance, for horse hire, for skill, for fatigue. Is *three-halfpence* a visit adequate remuneration for a medical officer? Is *three-halfpence* a visit likely to secure the "*proper attention*" contemplated by the Parliamentary Committee? We put the question to the Commissioners, to the members of the Parliamentary Committee, to any man possessing common sense and common honesty who has paid the slightest attention to the subject, with the conviction that the answer must be in the negative.

It will be recollected that the present rates of remuneration have been pronounced to be too low by the great majority of the respectable, experienced, resident practitioners, and that they were accepted under the excitement of competition, or rivalry, artfully inflamed by the first Assistant-Commissioners and Commissioners, who, in many instances, sent young men down from the London schools to displace established practitioners, and always advised resort to threats, and tenders, and advertisements, when their terms were not instantly acceded to; while it is clear that, upon the most charitable construction, they knew at the time nothing whatever of a single element—the cost of medicines for instance—in the price of medical attendance. The remuneration of medical men, we have reason to believe, has been reduced *one-half* by the new law. For some curious information on this head, and on the means employed to reduce the medical salaries to their present shameful, shabby amount, we refer to the able reports of the Poor-law Committee of the Provincial Medical Association.

The salaries are fixed in a few unions at as high a rate as was demanded by the medical witnesses, who were well aware that their brethren desired nothing exorbitant, and had no wish to give the Guardians a pretext in the salaries for limiting the extent of medical relief. But, as we have seen, the salaries are, on an *average*, half what they should be—half the amount demanded by the medical witnesses—half the amount admitted by the Poor-law Commissioners to be fair and reasonable; in many instances, therefore, where the salaries are at a minimum, they must be, and it is known that they are, disgracefully inadequate. The sick poor neither get "proper attention" nor "good medicines."

What do the Commissioners say in their instructional letter, with reference to the introduction of the fair scale of remuneration of which they have approved?

"The wide differences between the *circumstances* of different unions, especially in respect of the *density and character of the population*, render it, however, nearly impossible for the *Commissioners* to prescribe the universal introduction of this or any other mode of payment!!"

This statement is not quite explicit, and is perhaps equivocal. Do the Commissioners mean that they, aided by their assistants, and the evidence of the medical witnesses, cannot remove the present monstrous inequalities in the remuneration of their medical officers; and that they cannot adjust the salaries on equitable principles at the rates required, in order that the sick poor may obtain "proper attention and the best medicines?" If they cannot do this, a Central Commissioner, so far as medical relief is concerned, must be altogether useless. If Mr. Cornewall Lewis and Sir Edmund Head, however, *try*, we venture to predict that they will succeed beyond their anticipations. If they will bring as much energy, zeal, and industry, to bear in carrying out their views, and in saving the poor, as were formerly expended in destroying the sick labourer, and robbing, demoralising, persecuting the medical officer, the result will be as successful, and certainly more satisfactory.

The Commissioners give a curious practical contradiction to the paragraph which we have above quoted. They actually fix a rate of remuneration for certain "surgical and obstetrical services," notwithstanding the "differences between the circumstances of different unions." If they could deal with

some surgical operations, what was there to prevent their dealing with the more common, more destructive, and, therefore, infinitely more important cases occurring in medical practice?

We shall have much to say on this subject on future occasions, both here and elsewhere.

A Description of the Mineral Springs of Aix-la-Chapelle and Borcette; with some Account of the Curiosities of both Places and the Environs. By L. WETZLAR, M.D., Physician at Aix-la-Chapelle. Churchill, 1842.

DR. WETZLAR has given, in this little work, an account of the mineral waters of Aix-la-Chapelle, correct, scientific, and popular. He refers, in his introduction, to the lurking suspicions the reader is apt to entertain in reading the physician's panegyrics on the virtues of his indigenous springs. These suspicions are in general justified; but there can be no doubt that Aix-la-Chapelle deserves, in many respects, the reputation it has sustained from the time of Charlemagne. The waters of different springs differ in composition; they contain, as is well known, various salts, carbonic acid, and hydrosulphuric gas, the temperature of the springs ranging from 115½° to 135½°. It is the sulphur and the warmth for which patients are sent to the place.

The following extract is a fair specimen of the work:—

"A large leaden box, kept full of sulphureous water, is placed in such a position as to give a fall of twenty-four to twenty-eight feet to the water. Leaden tubes, ending in an elastic leather-pipe, conduct the water down into the bathing-room, and the jet may be increased or diminished by letting it pass through a corresponding aperture. The direction to be given to the jet is of great importance, and therefore requires proper consideration. The force of the douche is greatest when applied in a perpendicular direction to any point of the body; and, consequently, the more obtuse the angle is under which the water falls, the less power it has. If persons are too sensitive to bear the douche, even at an obtuse angle, the force of the jet must be broken by the hand of the man or woman who gives the douches. In every bath-house at Aix-la-Chapelle and Borcette there are persons called *frotteurs* and *frotteuses*; the former applying the douche to gentlemen, and the latter to ladies. These people are exceedingly clever in their business; and the great reputation which the douches of these places enjoy is partly due to them. Aix-la-Chapelle and Borcette may be, in fact, considered as schools for people of this profession; and not long ago one of our best frotteurs (who is still employed in a bath-house at Aix-la-Chapelle) received an invitation to a very distant watering-place, in order to give instruction to young people in this useful art. The frotteurs, while giving a proper direction to the jet of water, which they do most skilfully, are busy at the same time in rubbing the affected parts with their hands. Every one who has been douched at either Aix-la-Chapelle or Borcette, acknowledges with pleasure the ability of the frotteurs, and the benefit derived from their skill.

"The cures effected by the douche-baths are innumerable. Paralysis, contractions and stiffness of the joints and muscles, tremors, indurations, &c., have entirely ceased after using them for a sufficient period. Before a person takes a douche-bath, he ought to obtain directions from his physician on the subject, who will specify the parts on which he is to receive the jet, its size, and how the douche is to be combined with the bath. The patients usually take a simple bath for about a quarter of an hour at first, and are then douched for about the same time; after which they continue the bath, making the whole time employed in a douche-bath about three quarters of an hour, or at most an hour. The number of douches to be given, and the order in which they are to follow one another, depend on circumstances, and must be regulated by the peculiar nature of the complaint. Some persons feel great relief, and are even quite cured, after taking six or eight douches; others, on the contrary, require from four to six times that number. Occasionally it will be necessary to cease for some days after every four or five douche-baths, and to use common baths in the interim, or to give up bathing altogether for certain periods. There is a peculiar sort of douche in some bath-houses, called the ascending douche, which I should not omit to mention. Inveterate constipations are very often cured by an enema given by means of this powerful apparatus. Other injections are sometimes made with it, which prove very beneficial in indurations of some of the internal organs. In October and November, 1841, I attended Mr. N., formerly captain in the service of the East India Company, who had been suffering for many years from strictures of the rectum, which were the consequences of a violent dysentery, which he suffered from while stationed at Bombay. Besides water-drinking I ordered him to apply the ascending douche, which he did almost daily during his course. When he left Aix-la-Chapelle he was entirely cured."

BRITISH MEDICAL ASSOCIATION.

Exeter Hall, May 17, 1842.

Dr. WEBSTER, President, in the chair.

THE minutes of the last meeting were read and confirmed.

George Brown Clark, Esq., M.D., having been duly proposed and seconded, was unanimously elected a member of the association.

A letter was read from H. W. Rumsey, Esq. (Gloucester), on the subject of poor-law medical relief.

The report * of the deputation appointed to wait on the poor-law commissioners on the subject of the medical order lately issued from them was read, and on the motion of WM. EALES, Esq., seconded by W. P. JAMES, Esq., was received and adopted.

On the motion of ROBERT DAVIDSON, Esq., seconded by CHARLES BRADY, Esq., it was resolved,—

"That the secretary do write to the Scotch and Irish universities and colleges, drawing their attention to the regulations lately issued by the poor-law commissioners, which exclude all medical practitioners from the office of union surgeons, unless they possess qualifications from the London medical corporations, and requesting them to use their influence for the insertion of a clause in Sir James Graham's Poor-law Continuation Bill to remedy this injustice, and to take such steps as to them may seem necessary."

The meeting adjourned at an early hour to June 7th.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, May 10, 1842.

Dr. SEYMOUR, Vice-President, in the chair.

Peculiar Symptoms affecting an entire Family, and terminating in Death. By JOHN WILSON, M.D., Physician to the Middlesex Hospital.

IT appears that the family, consisting of father, mother, and three children, were in good health up to the evening of Dec. 30, 1840. On Jan. 1, 1841, the father, Giovani Arzoni, a Neapolitan, and a manufacturer of colours, was taken ill with griping pains and purging, which never ceased till death. He was sick at times, but never vomited. The motions were offensive and black; had frequent cold fits during the days, followed by much fever. The joints from the first were swollen, not red, but so painful that he could not be put into a warm bath. He was considered by the medical man who attended him to be labouring under low typhoid fever. He died on the 20th January. On examination after death the stomach was found healthy, but slightly discoloured in one part, attributable only to a natural cause; it contained a small quantity of fluid (homogeneous), principally animal matter; intestines healthy; lungs and pleura presented strong evidence of inflammation, quite sufficient to account for death.

The youngest child, age two years, died on 16th January. On examination after death there was no morbid condition of any of the viscera but the lungs, and they presented some little congestion only; the stomach and intestines were specially healthy. The above information was obtained from the evidence given at the coroner's inquest: the cases were not seen by the author.

On the 26th January the survivors, the mother and two children, were admitted into the Middlesex Hospital, under the care of Dr. Wilson. The mother, who was about four months advanced in pregnancy, was taken ill on the 2nd of January, with pain in the head and sleeplessness. During the night she lost her consciousness. The bowels were affected with severe pain, and there were frequent evacuations, sometimes only of fœtid gas, at others of matter like putrid flesh. Three days after she lost the use of her limbs, and had pain in the joints. On the sixth day œdema of the feet, legs, and thighs came on, and the urine was scanty, high-coloured, and offensive; water flowed from the mouth, which had a "cankery" taste. On the 15th of March she gave birth to a very small infant, which only lived twenty-four hours; she herself died on the 21st of March, labouring under symptoms of puerperal fever.

The details of this case, as well as of the cases of the two children, who also died in the hospital, are carefully related by the author. Their main features, however, as well as the appearances found after death, will be learnt from the "general remarks" made by the author, to which our limits oblige us to confine ourselves.

"In all the three patients the most prominent features of their sufferings were the general soreness of the fleshy parts as well as of the joints, exquisite sensibility of the skin when touched, and the pain produced whenever they were moved or their position changed, according to their so frequently expressed wishes.

"Next may be noticed the œdema, and particularly that of the inferior extremities, which was present in all the three. The alkaline state of the urine when admitted, and their desire for acid drink, the faces of all being pale, haggard, and so careworn, as to give to the children the aspect of aged dwarfs, from their hollow cheeks, sharp features, exsanguined and emaciated bodies.

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* We received the report too late for insertion in the present Number; it shall appear in our next.

At the same time their appetites were great, that of one of the children ravenous, but the mother's never was good; on the contrary, at times it was difficult to induce her to take even some trifling sustenance. The mother at different times was much exhausted by diarrhœa, and both the children suffered from it, but less severely. During their afflictions the intellects of all preserved their integrity. Lastly, there was the 'cankery' taste of the mouth; the 'metallic' taste of the boy; the watery state of the mouth and lips in each; the teasing, hacking, dry cough, common to all, and affecting the children, particularly towards the last. Then their lying sometimes without any covering, even during the coldest season, when at night the external atmosphere was 10 or 15 degrees below the freezing point, and when dying objecting to even a sheet, while their flesh was so greatly wasted, and their lungs becoming less and less capable of absorbing oxygen from the gradual infiltration of blood into parts of their vesicular tissue, diminishing proportionally the respirable portions. The death of the mother was accelerated by parturition, and examination after death showed very extensive disease in both the abdomen and chest, yet probably differing considerably from what might have resulted had parturition not occurred, and had she died like the children of the affection common to all of them, and not been sooner carried off by a new disease supervening on the original one.

"The abrasions or ulcerations of the sulci of the stomachs of the children have been noticed, but they were so slight that in ordinary cases they might have been overlooked, without attention having been particularly directed to that organ. Neither the mucous membrane of the intestines, nor other parts of the abdominal viscera, showed any particular change from the normal state. But the organ by which death finally entered appeared in these two to have been by the lungs, for the blood at last seemed to have infiltrated into their tissue, rendering portions of them dark, and so heavy as to sink in water, and resembling considerably the state of the lungs of those who died of the spotted fever in 1837, and which I have described in the 'Medical Gazette' as 'non-circumscribed pulmonary apoplexy,' caused by the blood becoming so altered as to escape from its proper vessels into the tissue of the lungs, thus rendering portions of them (as in these) black, and so heavy as to sink in water; yet these parts were not circumscribed by healthy lung, but they gradually shaded off from the heavy dark parts to the respirable portions."

After the admission of this part of the Arzoni family into the hospital, the coroner caused the bodies of the father and infant to be disinterred and examined. A chemical analysis was made, an inquest was held, yet no conclusive evidence resulted; so that legal, chemical, and medical investigations combined, have not been able to unravel the mystery which envelopes the cause of death. The author offers no opinion as to what this cause may be.

Dr. Seymour remarked, that the cause of death in all these cases must have been similar. It was a question of much interest to decide upon the nature of this cause, which was certainly shrouded in much mystery.

Dr. Addison was convinced, from the detail of the symptoms in these cases, that all the persons had died of scarlet fever in an obscure form. The sore throat, the erythematous redness, the œdema of the lower extremities, the puffiness about the eyes, and albuminous condition of the urine which existed in one case, he believed, the pallor of the features, the rheumatic affection of the joints, and the tenderness of the surface, all indicated the disease to have been scarlet fever in a somewhat obscurer form. He was more inclined to this opinion from the fact of every person in the family having been affected, and there being no poison which he knew of that could produce similar results.

Dr. Wilson was not aware that in either of the cases sore throat existed, and the eruption was not at all similar to that of scarlet fever. There was no symptom of disease of the kidney; the urine was not albuminous.

Dr. Seymour could not agree in the opinion expressed by Dr. Addison; he thought the cases before the society bore much more relation to those instances of secret poisoning which occurred in the 16th and 17th centuries, in which cases the health and strength, and eventually life itself, were destroyed by the long-continued administration of small quantities of some deleterious drug. We knew that some medicines acted as poisons in this manner. Thus, for instance, lead, in long-continued minute doses, affected the muscles, the bronchi, and eventually the brain itself. Now it was stated that the father of the family in the present instance had prepared a colour, the materials composing which he kept secret, but which probably were one or more of them poisonous.

Dr. Merriman could not think that the patients who were the subjects of the present communication had died of scarlet fever; for, although we occasionally saw this disease assume in a single case an anomalous and puzzling character, it never so existed in all the members of a family. In some of them there would be unequivocal evidence of the real nature of the disease. He thought it was more likely to be a case of poisoning. Did the family live in an impure atmosphere, or were they in straitened circumstances?

Dr. Wilson stated that the family lived in Charlotte-street, Fitzroy-square, and were

in good circumstances. From information which had been furnished him by the coroner's clerk, he understood that the men employed by the deceased had stated that there was no poisonous material in any of the colours, the composition of which they were acquainted with. The deceased was celebrated for a preparation of *ultra-marine*, the mode of preparing which he kept a profound secret. There might be poison in it.

Mr. DALRYMPLE remarked that the genuine *ultra-marine* was prepared by calcining the *lapis lazuli*, and contained no deleterious matter. Nine-tenths of the ultra-marine sold, however, was a pigment prepared by mechanical means. Of one mode of preparation this person, Arzoni, appeared to possess the secret. He (Mr. D.) thought the symptoms pourtrayed in the cases under discussion, were likely to have resulted from slow poisoning.

Dr. C. J. B. WILLIAMS thought that it was not improbable that arsenic might be present in the materials used by Arzoni in preparing his ultra-marine. Some imitations of this colour were made from cobalt, which it was known occurred in conjunction with ores of arsenic. There was no poison, perhaps, with which we were acquainted which produced such various and anomalous symptoms, and which were referrible to so great a variety of functions, as arsenic, according as it was slowly or more quickly introduced into the system. In the present instance the symptoms were similar to those produced by malaria.

Mr. ARNOTT had seen these patients soon after their admission into the hospital. The first idea he had of the nature of the cases was, that they were instances of slow poisoning. This impression, however, was immediately done away with by the fact that they were all in good health, and were taken ill suddenly. The symptoms presented were different from those of any disease with which he was acquainted.

Dr. ADDISON had heard nothing to shake the opinion which he had at first expressed. He had known scarlet fever to be confined to the members of one family, as in this instance, and the infection to be kept in one house for eighteen months, affecting the same persons twice in some cases, and in one instance three times. The cases under discussion bore no resemblance to cases of slow poisoning. The symptoms were those of acute disease and its sequelæ.

Case in which Pregnancy was unattended with the usual Signs, and in which Parturition occurred without Labour-Pains: Rupture of the Funis, which remained untied Forty-five Minutes. By THOMAS LEWIS, Esq., Liverpool. Communicated by Dr. C. J. B. WILLIAMS.

The case was that of a lady, aged 31, who had noticed an enlargement of the abdomen for six or seven months. She felt certain she was not pregnant, because she had not experienced symptoms similar to those of her first pregnancy. Catamenia appeared last eight or nine months ago. External examination not proving satisfactory, examination *per vaginam* was made, which disclosed the nature of the case. The os uteri was dilated to the size of a shilling, the neck entirely expanded, and the membranes and child's head could be felt. Though informed she was pregnant she was sceptical, and made no preparation for the event. On the 5th of January the author was sent for, and found the child born before his arrival. The funis was ruptured about four inches from the umbilicus. It appears the lady had suffered from diarrhœa for two days previous. At one o'clock in the morning she awoke with, she says, griping pains in the belly. These continued until six o'clock, when she got out of bed for ease. She walked into an adjoining room, and bending herself rested her hands on a table. Suddenly the waters broke, and the child was expelled, and fell on the floor. She states positively she had no pains in the loins nor bearing-down pains previous to the expulsion of the child.

The author considers the following facts established by the case:—

1. That pregnancy may occur and nearly reach its termination without many of the ordinary signs.

2. That the uterus may contract, like other hollow muscular organs, without the consciousness of the mother.

3. That rupture of the funis is attended with little or no bleeding.

The practical doctrine he infers from it is, that in cases of illegitimate births occurring suddenly, and where the child is found dead, the circumstances should be of a very decided character before the guilt of infanticide be fixed on the mother.

Dr. MERRIMAN saw nothing in the case related so very extraordinary. With regard to there being no hæmorrhage from the funis, it was well known that when this was broken by violence there was no bleeding. When torn asunder forcibly no ligature was usually necessary. He saw nothing wonderful in a patient not knowing that she was pregnant. He had seen many such cases. He was once asked to see the wife of a physician, who was stated to be labouring under ovarian dropsy, but who he found to be pregnant. On informing her of her condition, she said it was impossible. "Why so?" he inquired. "Ask my husband," was the reply of the lady.

Dr. SEYMOUR related the case of a lady who had been married sixteen or eighteen years without being pregnant, but who at the end of that period miscarried at the fourth month, in consequence of taking medicines for removing a fancied collection of wind in the abdomen.

Dr. JOHNSON observed that where one woman was pregnant and denied it, twenty imagined they were so when they were not. Joanna Southcote to wit!

REPUBLICATION OF MEDICAL WORKS

BY

A MEDICAL ASSOCIATION.

To the Editor of THE LANCET.

SIR,—As you printed last week my letter on the formation of a medical publishing society, accompanied with comments of your own, in which my views are misinterpreted, I trust to your well-known candour for the insertion of the following explanation and reply.

I did not propose the establishment of a society for the republication of medical works on antiquarian grounds alone; I merely pointed out two societies which by proceeding on a certain plan have been able to distribute to their members a large number of volumes at a very small cost, and suggested the formation of a society similarly constituted for the publication of medical works of "real value." Cheapness of production the result of combination, and the application of this principle to the improvement of private medical libraries, is what I advocated. The "Parker" Society is not an antiquarian society; its publications, beautifully printed, are valuable and useful, not merely curious and interesting; and it was in the belief that in many "dusty volumes out of print," to use your own expression, valuable practical facts are to be found well worthy of attention even at the present day, that I proposed the formation of a medical publishing society; and I am glad to find my estimate of by-gone worthies borne out by a passage in an article on Dr. Holland's "Medical Notes and Reflections," in the 16th number of the "British and Foreign Medical Review:"—"Such works in medicine," says the reviewer, "are nearly peculiar to the literature of our own country. They were more frequent in the *last age* than they are in the present, and accorded well with a turn of mind conspicuous in the old English physician. In the spirit which pervades them, Dr. Holland's 'Notes and Reflections' are redolent of the good old school; they have the same philosophic air, the same tincture of good letters, and the same exemption from the vice of book-making, which constitute leading excellencies in the writings of Mead and those of Ferriar, more recent in date, but of similar character." Before the year 1835 no complete edition of Hunter's works existed; many of his publications were only to be met with in "dusty volumes out of print." Mr. Palmer's excellent edition supplied an acknowledged deficiency; the price of the work, in four volumes 8vo., was 3*l.* 10*s.*: the same work might have been printed by a well-supported medical society, and distributed to its members for, perhaps, little more than the annual subscription of one guinea. Dr. Baillie's works were collected and published by Mr. Wardrop, in two thin 8vo. volumes, for 1*l.* 5*s.*: an equally handsome edition, in one volume 8vo., might have been published by a society for little more than a fourth of that sum. These two examples sufficiently show what might be done by combination, and how cheaply a handsome series of medical classics might find their way to the shelves of every practitioner. In the preface to Hunter's works, Mr. Palmer states that "it cannot but be a subject of deep regret to all those who have the interests of science or of their profession at heart, that no one should have undertaken to collect these writings before. Dispersed through scattered volumes of the 'Transactions' of the Royal and other learned societies, many of his *most valuable* papers have been *unknown and neglected*, or at least have been *inaccessible* to the great bulk of the profession; while of those which have been published separately, some are nearly *out of print*, and scarcely to be obtained; others are extremely incorrect, and the greater number are excluded from general circulation in consequence of their *expensive form* or *inconvenient bulk*." If your argument against the republication of the works of medical authors is valid, if it is right "always to look forward" without casting one single glance behind then the works of Mr. Hunter had better have remained "neglected," "inaccessible," and "out of print." The profession, however, has approved of Mr. Palmer's reasons for their publication, and the same reasons are applicable to the works of other medical authors. How few members of the profession (perhaps not one in ten) possess even Sydenham's works; a smaller proportion own Harvey's; and surely the writings of Mead, Huxham, Freind, Whytt, Fothergill, Pringle, Fordyce, Heberden, F. Home, William Hunter, Cruikshank, Wilson, Thomas Young, Jenner, and many others, if collected and published with notes, would be no "useless" addition to a medical man's library. But the labours of the society need not be confined entirely to English authors; translations of foreign works might form a part of the general design. The works of Laennec, for instance, might then be had for about 6*s.*, instead of 18*s.* In making these comparisons between the price of books published by societies' and booksellers' editions, I do not wish to be understood as saying that the latter could be published at a smaller cost, the bookseller is fairly entitled to his profit; but there is no reason why members of the profession should not benefit by pub-

lishing works for themselves, when it can be done so cheaply and so well. I am, Sir, your obedient servant,

FERGUSON BRANSON, M.D.

Sheffield, May 7, 1842.

DENHAM PARK ASYLUM.

To the Editor of THE LANCET.

SIR,—I have to thank "Scrutator" for his remarks on my letter, inasmuch as they enable me to explain more fully a matter to which I merely adverted cursorily at the conclusion of my last. "Scrutator" must be aware that however desirable it may be to remove an insane person, both for his own safety and comfort and for that of his friends, from scenes and faces which have received a morbid colouring from their association with the progressive advances of his disease; yet, on the other hand, it is justly esteemed better by parents and relatives to retain possession of their poor friend, even with the prospect of giving permanency to the disease, than to commit him to the dark and dismal cell and gross treatment which is the common lot of those who are sentenced to the lunatic bastiles in the immediate vicinity of London, and where the disease is certain of being confirmed. It was for the purpose of meeting this among other serious objections to placing patients in an asylum where their disease would be treated as well as their comfort carefully guarded, that the proprietors of Denham Park decided upon the admission of friends of the patient for a shorter or longer period. Thus far, I conceive, that "Scrutator" could make no objection to the arrangement; but I must confess myself open to his reprehension for not having explained that this arrangement can alone be made with the sanction of the resident physician, and that that officer would only give his consent after carefully weighing all the circumstances which were likely to favour or be objectionable in the association. In some cases there can be no doubt that the disease might be benefitted and ultimately cured by carrying out, under judicious management, an arrangement of this kind, in addition to the satisfaction that must accrue to the family of the sick person, from feeling that a strict watch is kept over their poor relative, and that his every comfort is watched not only by officers well skilled in the duties, but also by one of their own kindred. Again, the resident physician would unquestionably object to this plan, if it were likely even in the most distant manner to affect the interests or comfort of the other patients of the establishment.

Since my last communication to you, Sir, I have again visited this lovely spot, and was much struck by the following little incident, which, as it serves to place the insane on higher ground than has hitherto been accorded them, I think may not be uninteresting to your readers. A robin built its nest this season in the hollow of a tree, in the walk to the gardens, and so near to the path as to be visible to all who passed. One of the patients discovered the nest, and brought others to view it, at the same time requesting that the bird might not be interfered with. This request was repeated by the resident physician, and most strictly observed. The robin, though visited daily by almost all the establishment, has been left in security to hatch her eggs and rear her little brood. Insanity, how like thou art to sanity! The mention of this little incident, so trifling in itself, is deserving of thoughtful contemplation. If my patients (the physician might say) fulfil my wishes so obediently in this little request, they will do so in greater; if my patients can thus sympathise with the little robin and her unfledged brood, their hearts are open to feel and appreciate kindness, and bestow it on those about them: surely, then, the insane patient is my friend, and I am his. I had scarcely awaked from the reverie into which my thoughts on the robin's nest thus anxiously tended by the benevolent watchfulness of a group of insane persons had involved me, than I perceived the superintendent driving three gentlemen in a little open carriage through the gate, returning from a ride through the beautiful vale. Taking advantage of an opportunity when he was apart from the patients, I inquired if he did not feel somewhat nervous in placing himself in the power of those strong men at some distance from home, who might easily overpower him if they felt so inclined. His reply was brief, but characteristic of the whole establishment: "I should," said he, "if my conscience told me I had wronged them."

One other little incident and I have done. Several of the patients with their attendants were playing on the lawn one day last week at bowls. The superintendent accosted a gentleman who is occasionally very violent, and asked him after his health. "If you don't call me by my proper name," was the quick reply, "I'll kill you instantly with this bowl." "And if you were to kill me," asked the superintendent, "who would then take you out for a drive?" "Ah! ah!" answered the patient, "that's true;" and immediately resumed his game. I should mention that this gentleman is in the habit of assuming the title of "Napoleon."

Trusting, Sir, that you will continue to exert yourself in the cause of the insane patient, believe me to be your obedient servant,

SHADE OF PINEL.

May 10, 1842.

LUNATIC ASYLUMS.

THE HUMANE SYSTEM.

To the Editor of THE LANCET.

SIR,—I have read with particular pleasure the following extract from the eighteenth annual statement of the visitors of the Gloucester Lunatic Asylum:—

"The visitors have likewise during this year sanctioned, in fact (but not as an universal regulation), the *total disuse* of all mechanical restrictions on the persons of the insane. It has ever been the practice of the medical officers to use as little restraint as was deemed compatible with the safety of the patient, or the protection of those about him; but they admit with the visitors that up to this time *all the patients* are *as securely* managed, and are governed with *much less difficulty and disturbance*, WITHOUT than WITH mechanical assistance."

I have also been much gratified with the following passage from the same report:—

"Balls and other amusements occurring in lunatic asylums, have been of late publicly mentioned as matter of admiration and astonishment. In this asylum large parties for dancing have always been promoted, as well as dinner and evening parties, when proper, and pleasurable excursions for many hours in the country. Musical entertainments within the walls, and attendance on public amusements, are of so frequent occurrence, that they constitute the practice rather than form the occasional source of astonishment in this asylum. Indeed, to so great an extent does our superintendent endeavour to make his patients feel that they belong to the great community of mankind, and are only temporarily separated for their health's sake, that he encourages a great proportion to attend to their religious duties on Sundays, in the places of worship in the city and neighbourhood, and induces all who can or will separate themselves from the asylum to take their exercise in the surrounding country; whilst, to give encouragement to those who are inclined to be industrious, he employs all he can *without* the walls in various ways, and cultivates nearly twenty acres with the spade in the fields adjoining and belonging to the asylum, with scarcely any other check upon their escape beyond the good feeling subsisting between himself and them."

Referring back to a former report of this institution, published in 1826, the following remark occurs:—

"It is manifestly an act of justice to the public, that they should be made acquainted with the state of those institutions, to the support of which they contribute; and it has been found conducive to the welfare of the institutions themselves that such information, though at all times accessible, should at stated times be as widely disseminated as possible."

I hope that all our public asylums will avail themselves of this excellent hint, and not hide their light under a bushel, or allow each other and the public to lose the advantage of a knowledge of any improvements in the treatment of the insane, as they may from time to time introduce. Such dated record will secure to each the merit of its own priority. I remain, Sir, your faithful and obedient servant,

ROBERT GARDINER HILL.

Lincoln, May 14, 1842.

NOTORIETY.

"SAVE US FROM OUR FRIENDS."

To the Editor of THE LANCET.

SIR,—Amid the efforts that are daily being made to reform the medical profession, and to raise its members to that place in public esteem which the faculty deserves, it is much to be regretted that some of those for whose benefit these attempts are projected appear to be taking opposite measures for their elevation. I beg to call your attention to the following paragraph in the *Reading Mercury* of the 7th of May:—

"William Thresher, late a patient in the Royal Berks Hospital, was, three years previous to his admission to that institution, unable to move without crutches. Feeling deeply sensible of the great benefits he has received he begs to tender his thanks for the same, *more particularly to Mr. F. A. Bulley*, through whose care, by the blessing of Almighty God, he is now enabled to walk without any assistance."

We beg to inform our readers that such quack-like puffs are not generally admitted into public papers without the knowledge and permission, if not the express wish, of the person eulogised; and it is but a poor token of popularity and professional esteem when public opinion is thus to be courted by newspaper advertisements. Mr. F. A. Bulley must, we think, have strangely forgotten the respect due to himself as a surgeon of the Royal Berks Hospital and a member of a liberal profession, when he allowed his friends thus obnoxiously to bring his name before the public. I hope, Sir, that these remarks are not more severe than the case deserves, and that you will not consider them unworthy of your notice. I am, Sir, your obedient servant,

HONORIS AMICUS.

London, May 10, 1842.

POOR-LAW CHARGES.

To the Editor of THE LANCET.

SIR,—I find there is no mention made of paracentesis abdominis in the list of extras, which the poor-law commissioners have lately awarded to the medical men. No doubt it is an oversight, which if they be reminded of by you will meet with attention. I am, Sir, yours obliged,

ALEX. BROWN, Surgeon, &c.

Steeple Bumfield, Essex, May 15, 1842.

CAUTION.—(*From a Correspondent in Oxfordshire.*)—Medical gentlemen are respectfully warned against the practices of a person who has passed under the different names of—[Here four names are mentioned by our correspondent; but it would be useless to publish them now, as the party would at once assume a new name to cover a new imposition].—To obtain the situation of medical assistant he refers to a fictitious address, under cover of which he gives himself an excellent character, and thus introduces an unprincipled impostor into the house of his unsuspecting employer. He has practised this imposture in two instances lately in the county of Oxford. He has also made attempts, by means of false representations and forgeries, to procure valuable instruments from respectable manufacturers in London. His height is about five feet ten inches, complexion dark, nose reddish. He has a considerable Scotch accent. The present course of public notice is taken for the protection of medical practitioners, as well as for the sake of the character of the respectable members of the class of medical assistants.—May 11, 1842.

THE next annual meeting of "The Association of Medical Officers of Hospitals for the Insane," will be held at Lancaster, at mid-day, on Thursday, the 2nd of June next. Any visitor intending to favour the association with an essay or paper, or to introduce any particular subject for its consideration, would oblige the local committee by informing them, through me, Mr. S. W. M. Hitch, of Gloucester, of such intention to facilitate the arrangements being made for the meeting.

BRENTFORD MEDICAL ASSOCIATION.—At a meeting of medical practitioners resident in Brentford and its vicinity, held May 12th, 1842, it was resolved,—That an association should be formed, consisting of the medical gentlemen resident in the several parishes comprised in the Brentford Union, including all practitioners in the neighbouring districts who might be disposed to join it, to be called the "Brentford Medical Association," for the purposes of friendly intercourse and mutual advantage. A committee was appointed to draw up the requisite rules and regulations, and report to a future general meeting. At the present time, when so many attempts are making, in various quarters, to degrade and annoy the profession, it is only by the formation of such associations as the above, that feelings of unanimity can be kept up among its members, and it behoves every medical man of the present day to bear in mind the adage—

"Where there is union, there is strength."

ROYAL COLLEGE OF SURGEONS IN LONDON.

LIST of gentlemen admitted members on Friday, May 13, 1842:—Joseph Thomas La Presle; Alfred Tulk; Charles Edward Prior; Caleb Rose; Rowland Tilton; John Wright Long; William Jollie; Alfred Milner Moger; Henry Hamilton; John Howells Thornhill. Admitted Monday, May 16, Erasmus Stone; Thomas Herbert Barker; Thomas Philip Dennett; Richard Lead Maddox; William Henry Cane; William Brumfil; Farquhar Milne; John Gordon.

TO CORRESPONDENTS.

PHOSPHORIC ACID.—If the gentleman who stated in the last number of THE LANCET that phosphoric acid may be safely and cheaply obtained, by acting on phosphate of lead by sulphuretted hydrogen, wishes for valuable information on that subject, he will examine Professor Kane's excellent work on Chemistry (2nd number), which says that *bi-basic* phosphoric acid is obtained by decomposing bi-basic phosphate of lead by sulphuretted hydrogen. J. M'C., late a pupil of Professor Kane.—Dublin, May 5, 1842.

The *Cork Constitution* has not been received. The subject which Dr. C. has mentioned is one of considerable importance, and ought to be fully discussed.

Septimus Senior.—As a SURGEON, but not as an *apothecary*.

Dr. Ayres's communication and many other papers are under examination. Is the letter of *Mr. Billet* written for publication?

Erratum.—Mr. E. H. Linnecar, of Aldermanbury, writes as follows:—In the report of a case related by me at the Medical Society of London in THE LANCET of May 14, I am made to say that "the presence of pain is a beautiful provision for the preservation of the child;" which is quite contrary to the idea I wished to convey, which is as follows:—"That in cases of pregnancy where serious disease is set up, or about to be set up, in the system involving the life of the mother, there appears to be a prehensile power of the *vis medicatrix* naturæ that produces premature labour, which I look upon as a beautiful provision to save the life of the child." I am sorry that the hurried manner in which I related the case prevented the reporter from catching my idea correctly.